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Refiners Must Curtail Gasoline Output

Highest production in 1930, week ending Feb. 22, average daily output 2,699,096 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Advantages Gained Through Splendid Accomplishments of Crude Producers Endangered by Lack of Co-operation

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1930 was for week ending Dec. 27 with average output of 2,144,074 bbls.

The crude oil situation, sound statistically, is being endangered by failure of refiners throughout the country to curtail the manufacture of gasoline to market requirements. Weakness in the gasoline market is being reflected on the crude oil situation. Rightfully or wrongfully, gasoline prices are regarded in many circles as the yard stick for the crude oil price structure. Just why crude oil producers should suffer because of failure of refiners to obtain a fair price for the finished product has never clearly been explained, but the fact remains there is a strong belief in many quarters that crude oil prices must be based on prices received for gasoline.

Refiners who are willing to sell gasoline below the market on the present crude oil price structure certainly would do the same thing were crude oil prices lower. Lower crude oil prices would simply establish a different and lower basis for operations. However, slipping prices in the refined oil market has created considerable discussion as to the possibility of a reduction in crude oil prices and predictions are being made freely such a reduction may be expected shortly after the first of the year.

The industry at this time should bring all the pressure it can command to bear on refiners responsible for the present trend. Crude oil has been withdrawn from storage in the United States every month for the past 20 months, or since February, 1930. It is a record of which the producing branch of the industry can well be proud. With such a record, it seems unthinkable that there should even be any thought of a reduction in crude oil prices. Yet such is the thought among many oil men now, and it is up to the industry to remove the reason for any such thought.

In the Mid-Continent area there is little doubt that a strengthening of the gasoline market is needed to make crude oil producers breathe more easily.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended December 5 and a comparison with the previous week follows:

	Dec. 5	Nov. 28
Oklahoma—		
Oklahoma City	196,785	166,135
Seminole-St. Louis	141,620	146,810
Remainder of State	216,215	210,490
Total Oklahoma	554,620	523,435
East Texas—		
Kilgore	133,465	131,041
Lathrop	133,448	125,342
Joiner	135,320	131,601
Total East Texas	402,233	387,984
West Texas	200,174	199,855
North Central Texas	82,096	82,651
Texas Panhandle	53,537	55,608
East Central Texas	56,785	56,478
Gulf Coast—Texas	120,725	121,746
Southwest Texas	62,643	64,710
Total State of Texas	978,193	969,032
North Louisiana	28,690	29,130
Arkansas	37,450	37,525
Kansas	104,830	104,785
Gulf Coast—Louisiana	34,212	32,135
Eastern	127,000	125,000
Rocky Mountain area	90,206	91,555
California—		
Santa Fe Springs	61,500	62,500
Long Beach	74,250	74,500
Playa Del Rey	22,750	23,000
Elwood	22,750	23,500
Kettleman Hills	58,500	64,000
Remainder of State	256,250	256,500
Total California	496,000	504,000
Total United States	2,451,201	2,416,597

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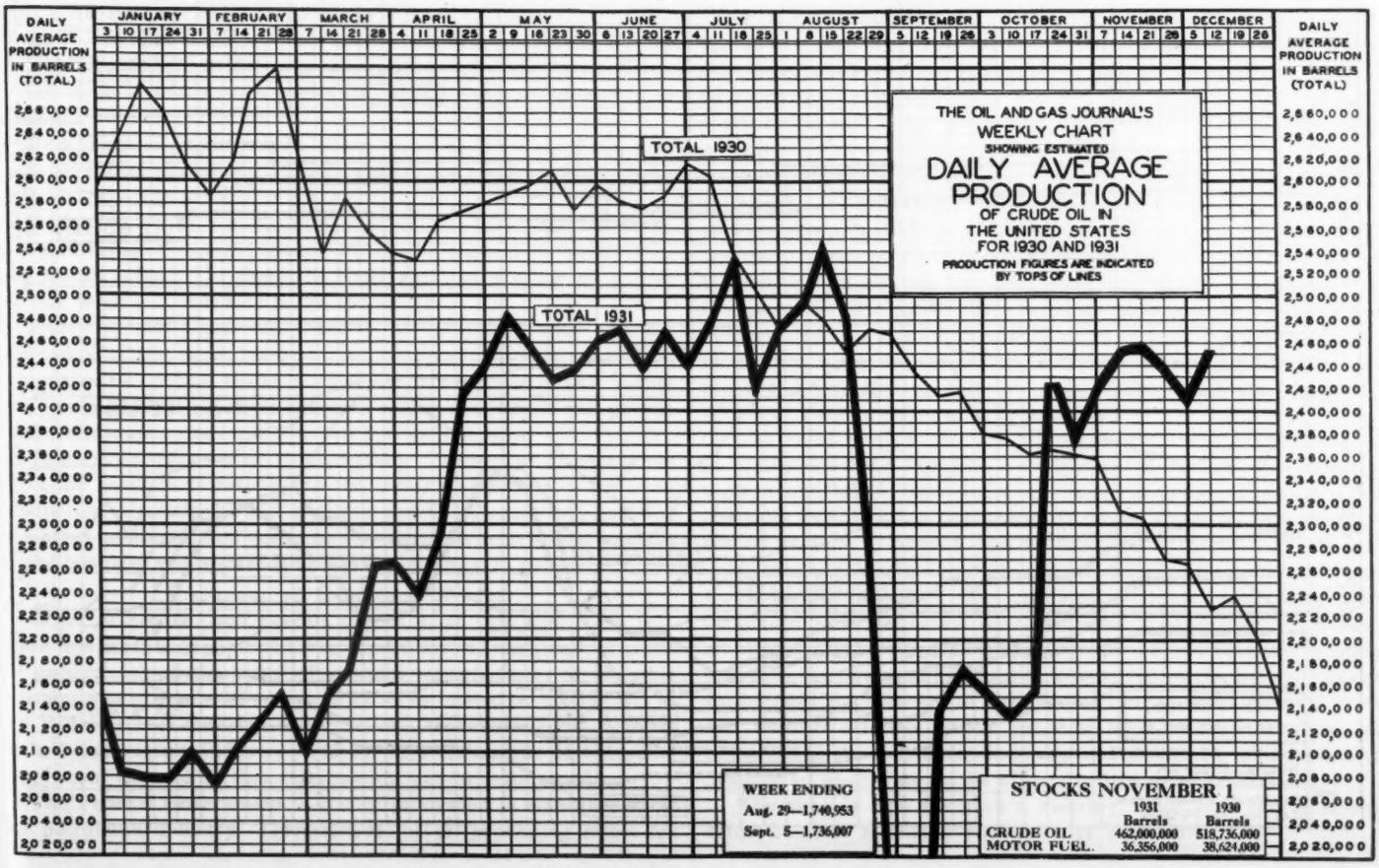


Gasoline Prices Continue Decline

Both Refinery and Natural Grades Lower in Oklahoma. Reductions in Bright Stock and Neutral Oil Quotations

By C. O. Willson

Refinery gasolines and natural gasolines in Oklahoma (Group 3) continued their price slump during the past week. The decline in all refinery grades was one-half cent per gallon for the week with a three-quarter-cent drop in most grades of natural. These products are now within 1 cent a gallon of the summer lows which were the lowest in the recent history of the Mid-Continent Field.

Gasolines were joined by lubricating oils during the week when a general reduction of 2 cents a gallon became effective in bright stocks with a half-cent decline in neutral oils. These reductions are largely the result of a decline in the Pennsylvania and East Coast markets, the Pennsylvania grade bright stocks having dropped within 2 or 3 cents of the Oklahoma grades before the reduction in the latter products was made effective.

The decline in gasolines which was more rapid than expected by many, has brought an unsettled feeling in the remainder of the refined market list of the Mid-Continent and Middle West and there were reports of weakness in other products. However a careful check of Oklahoma prices failed to show any important changes in the price ranges for all grades of fuels and burning oils. Open market buying was slower but contract shipments were steady.

Natural Gasoline

Probably the most discussed development of the week was the sharp dip in natural gasoline prices. The principal grade—AA—which sold for 4¾ cents early in November was freely available the first of the week in Oklahoma at 2⅝ cents and 2½ cents in Texas. The demand was still slow and it was feared that prices would decline to around 2 cents a gallon before the decline could be stopped.

Market observers point to three or four developments in explaining the natural gasoline market and because of the direct relationship between refinery gasolines and natural gasolines, they are of interest to everyone concerned with the refinery market. None of these developments is new but it is certain that they will have more importance in the gasoline market for next year than they have in the past.

Changing Refinery Methods

Probably of greatest importance is the trend toward higher octane ratings in finished motor fuels and the effect it has on processing methods at refineries. It is not feasible here to discuss the details of this development. Briefly, however, it has meant the rapid expansion of cracking and gasoline reforming facilities at refineries which in turn has meant a large increase in the production of light end products. In general the production of these products increases in direct proportion to the refining facilities installed to increase the octane number of the finished gasoline. This in effect means that a large number of refineries have all the high gravity and low endpoint gasoline fractions needed to bring their entire gasoline production to the required distillation range including cases where refiners are refining an exceptionally volatile motor fuel.

This development has been under way for several years with the gradual spread in cracking but it has now reached the point where it is an important factor in the present and future outlets for natural gasolines. The refining and marketing fraternity have become "octane minded" to the point where the desire to get the maximum antiknock rating in motor fuels overshadows in importance, every other specification. Natural gasoline manufacturers were not concerned with this trend in the past. In fact they encouraged it, because their

(Continued on Page 95)

REFINED MARKET BAROMETER

The strength in refined markets over the past week was confined to the coastal sections. Important advances were made effective in gasolines at refineries and bulk terminals along the East Coast by several of the major refining companies. Advances in gasoline prices for export movement were announced, although the demand is slow. On the West Coast gasoline prices for domestic movement are higher, reflecting a more stabilized retail market situation. At interior points the price trends on gasolines were contrary to those in the coastal areas. Tank car prices at Mid-Continent and Middle Western points continued to break sharply, due to a steady supply in the face of decreased seasonal demand. Natural gasoline prices also slumped rapidly. Kerosene prices were advanced in the East, with no important changes in other areas. Fuels were generally steady, including all grades of furnace oil and distillates. Bright stocks and neutral oils were reduced in the Mid-Continent. Paraffin wax quotations unchanged.

Mid-Continent—Decline in refinery and natural gasoline prices applied to all areas. Less demand for fuels reported in some areas, with very little demand for high gravity fuels. Kerosene steady. Bright and neutral oil prices reduced. No change in wax.

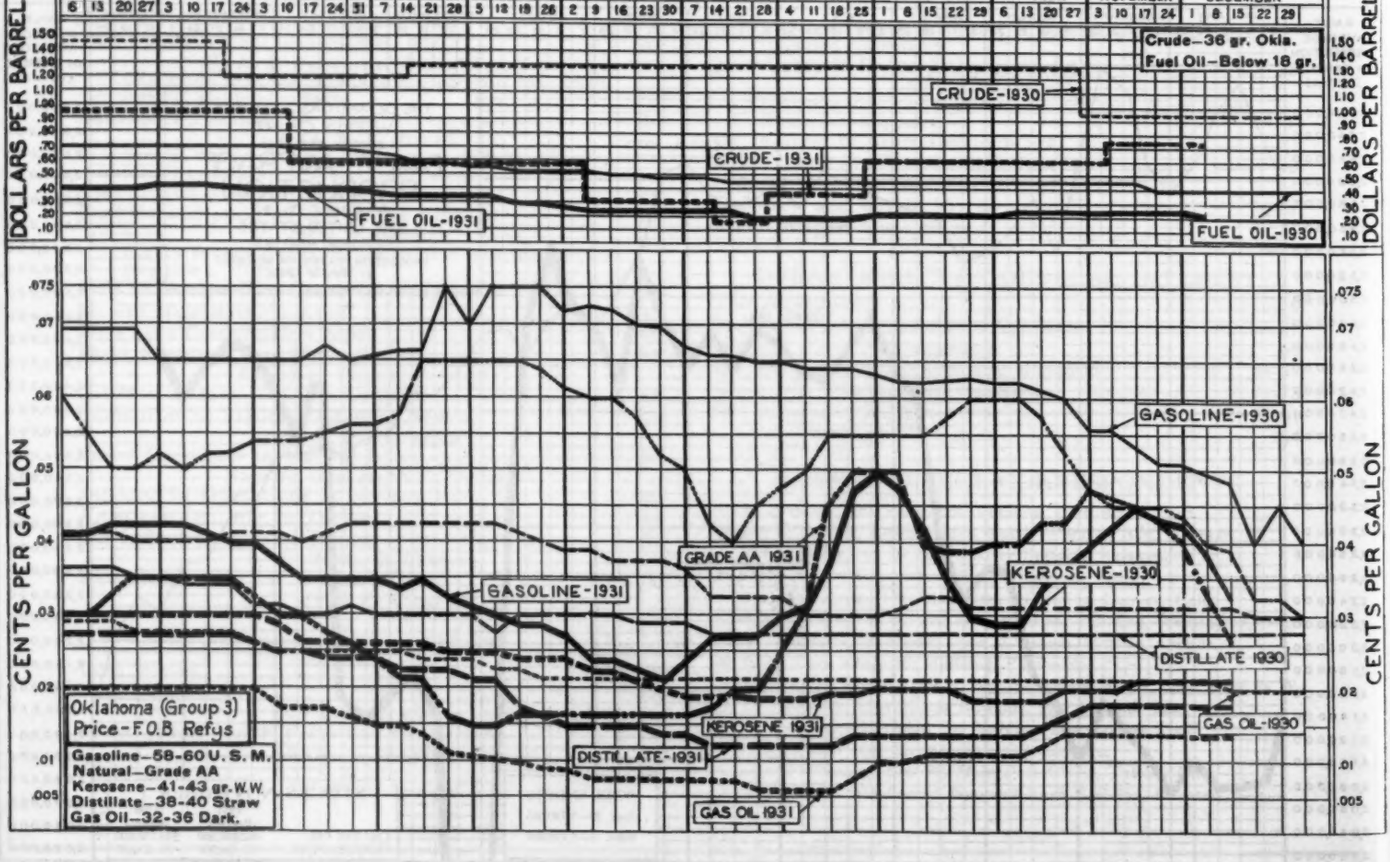
East Coast—Major distributors advance prices on gasoline and kerosene for domestic movement. Better demand for heating oils. Bunker oil and Diesel oil prices steady. Lub oil demand quiet.

Chicago—Gasoline prices decline rapidly with less demand. Fuels not so active with scattered price reductions. Kerosene steady. Wide interest in new type gasoline contracts.

Gulf Coast—Domestic gasoline market weaker. Export gasoline prices higher. Lessened demand for pale and red neutrals. No change in quoted prices for fuel oil and gas oil.

California—Improvement in retail gasoline market reflected in improved tank car market. Export and coastwise prices unchanged. Kerosene slow.

Pennsylvania—Prices on some grades of kerosene higher. Gasoline steady. Lower prices for steam refined stocks.



General Meeting Might Save Situation

Oil Industry, State and Government Representatives Urged to Get Together in Texas to Prevent Threatened Price Cut

By Andrew M. Rowley

The time has come when the oil industry and the State and Federal Governments should get together to take an inventory of the oil business and decide upon such measures as may be deemed necessary to prevent a recurrence of depressed conditions of the past year and to permit this basic industry to aid all other business in the United States to regain a solid and firm footing.

Leaders in many different lines of business feel the petroleum industry is peculiarly fitted to be the marshal in the parade back to prosperity for the nation as a whole. It is one business whose market for its chief product has not shown a decrease during the period of the general business depression. It is an industry in which every man, woman and child in the nation is interested either through the purchase of gasoline or through its expenditure of approximately a billion dollars a year for labor, material and equipment, which expenditure has an important effect upon so many other lines of business.

There are factors in the present situation affecting the oil business which, if not corrected, might easily result in a downward swing that might later be hard to curb. These conditions might readily be ironed out at a meeting where the different views might be presented and discussed.

Federal Government Can Aid

The Federal Government would render invaluable aid to all business if it would call a meeting of interested parties to discuss conditions in the oil business. Much has been learned since President Hoover called the meeting at Colorado Springs two and one-half years ago. Opinions on many subjects have undergone a change since then. And matters which interfered with the success of the Colorado Springs meeting would have no place in a round table discussion at this time.

The petroleum industry has made wonderful progress during the past two years in stabilizing its business. Its statistical position at this time is the best in years. Basically and fundamentally it is sound.

Now is the time to insure a continuance of these conditions, to make sure that advantages already gained are not lost, and to take steps to avoid the pitfalls of the past.

Every branch of the industry has worked hard and sacrificed much to effect the improvement which the figures on production and stocks reflect. It would be little short of a crime to permit all this work and sacrifice to go for naught.

Every person connected directly or indirectly with the oil business has the same hope—better times which will permit all companies to operate under normal conditions, which will insure every employe his job at an adequate salary and which will permit a fair return upon the capital invested in the business.

There is no argument on this question. There is no disagreement upon the basic facts relating to the industry. Statistics covering production of crude oil and gasoline, stocks of crude oil, gasoline and other products; and consumption show accurately the position of the business and are accepted by the industry in general.

Discussion of Conditions Needed

What is needed, and needed urgently, at this time is a full, frank and free discussion of these conditions; of the trend of crude oil production; of the trend of gasoline manufacture; of probable consumption of crude oil and gasoline as estimated by economists of the Federal Oil Conservation Board and those connected directly with the petroleum industry; and of ways and means of balancing supply and demand so that stabilization can be maintained.

The Federal Government is vitally interested in stabilization of the petroleum industry. Governments of oil producing states are more directly interested by reason of the influence such stabilization has upon the state revenues and the income of its inhabitants. Producing and refining companies are concerned because such stabilization is absolutely necessary to a continued operation of their business. Small companies and individuals who have been struggling to keep in the oil business must have such stabilization quickly or they will be forced to pass out of the picture. Unless such stabilization is achieved, the owners of thousands of small producing wells throughout the country will have to give up the struggle and abandon these "strippers."

There is no organization or agency in the petroleum industry through which a meeting such as has been suggested can be held and these matters discussed. It is true the American Petroleum Institute held its annual convention last month, but there is no place on a program of the American Petroleum Institute for a meeting such as is needed at this time. What is needed is an open forum where questions of vital interest to every branch of the business can be discussed by accredited and official delegates, or others who have an interest in the business.

Should Meet in Texas

Great weight would be given such a meeting if it were called by the Federal Government. The meeting should be held at some city in Texas, such as Dallas, Fort Worth, Houston or San Antonio. It should convene during this month as it is most important that trends now becoming evident in the industry be corrected before allowed to go too far.

Representatives should be selected from all organizations connected with or affiliated with the oil business to attend such a meeting. Members of the Public Service Commissions, Railroad Commissions, Corporation Commissions and other such state regulatory bodies should be instructed by the governors of the respective oil producing states to attend the meeting and should be empowered to speak and act for their states. The Federal Government should be represented by officials authorized to speak and act for the Federal Government.

Recently, Earl Oliver, an engineer of Ponca City, Okla., conferred with governors, attorneys general, corporation and public service commissioners, legislators and other state officials; with leading producers and refiners, with representatives of the Federal Government in Washington and with United States Senators and Congressmen. He found there was a surprising accord on all basic matters affecting the welfare of the petroleum industry. Differences of opinion were on matters of comparatively minor importance. State and government officials were willing and anxious to do whatever they could to aid the industry.

The chief trouble was the public officials had been unable to ascertain to their complete satisfaction just what the industry wanted and what was needed to bring about stabilization. Oil company officials had somewhat different views as to just what should be done to correct evils all admitted.

A meeting where conditions could be discussed and analyzed would benefit everyone. The crude oil producer would learn what he should do to help stabilize conditions. The refiner would have an opportunity to see the entire picture and could ascertain quickly just how his operations should be conducted to the best advantage for himself, the industry as a whole and the public in general. State and Federal officials would get first hand information from all branches of the petroleum industry and would be in a far better position to co-operate in the efforts to hasten better times.

The time is ripe for such a meeting. We urge that a strong effort be made at once to convene such a gathering.

Coming Big Development in Kansas

An Interesting Area Which Already Has Developed Big Wells Producing High Grade Oil but With Limited Market

By W. A. Spinney

The accompanying map, covering all or a part of eight counties in Kansas, including Lincoln, Ellsworth, Rice, Reno, Stafford, Barton, Russell and Rush (the latter indicated by the Dewey-Mitchell well), shows one of the most interesting and most recent oil developments in the United States. The map covers an area 66 miles east and west and 84 miles north and south. Within the area mapped are a number of old fields that have little, if anything, to do with the more recent developments, including the several-years-old Fairport Pool in Russell County. Our interest lies particularly in that crescent shaped line of wells lying between the Sellens Pool in southern Russell County and the Midwest Exploration Co.'s well in Stafford County.

This is the area which owners of leases are endeavoring to develop conservatively with one well to each 40 acres. The Kansas Public Service Commission will hear arguments this week on a petition recently made to effect the kind of development named, which may meet with objection by perhaps one oil company and by some royalty owners.

Wells Far Apart

The distances between the oil wells spotted on the map will give the reader a good idea of the bigness of this Ellsworth arch development, which is yet in its infancy. From the Sellens Pool in southern Russell County to the Prairie Oil & Gas Co.'s well in the Davidson area in Barton County is about 10 miles air line. From the Prairie well to the well marked Palmer-Gypsy in the Stroddenberg area in Ellsworth County is an added 7½ miles; thence to the J. A. Aylward well in the Stratham area is 4 miles and thence to the Darby-Slick well to the Heiken area is 4½ miles. From the Darby-Slick well to the J. H. Tatlock well in the Ploog area in Rice County is 9 miles and to the Muth Brothers well to the Byers is an additional 3.5 miles, while 6 miles farther on is L. E. Cress and others' well in the Sharpe area. From the Cress well to Hilligoss & Isern's well westerly in Barton County is about 6½ miles, while the Skelton well west of the city of Great Bend is 21 miles farther. The Raymond Pool is 4 miles from the Cress well and the distance from the Raymond Pool to the Midwest well in the Richardson area in Stafford County is 18 miles. In the crescent-shape development between the Sellens Pool on the north to the Midwest well on the south lies 66.5 miles of territory containing a mere handful of wells an average distance of between 9 and 10 miles apart.

Record of Wells

The discovery well on what is now called the Ellsworth arch was Steinbuckel and others' No. 1 Schurr, NE cor. SW Section 21-20-10w, Rice County, making 202 bbls. a day from sand at 3,275-84 feet. It was completed in October, 1929. The well was later sold to Slick, Pryor and Lockhart, and was drilled deeper to the Siliceous lime at 3,304-08 feet, where it made 860 bbls. a day, in February, 1930.

T. H. Tatlock and others' No. 1 Ploog, CSW SE Section 33-18-9w, Rice County, was next to be completed swabbing 712 bbls. in four hours from the Siliceous lime at 3,249-53 feet, in August, 1930.

Darby Petroleum Corp. and Slick, Pryor and Lockhart's No. 1 Heiken, NW cor. Section 25-17-10w, Ellsworth County, was completed in October, 1930, and was estimated from 3,000 to 4,000 bbls. a day from Siliceous lime at 3,221-43 feet.

In November, 1930, Mid-West Exploration Co.'s No. 1 Richardson, SE cor. Section 36-22-12w, Stafford County, had a potential of 1,680 bbls. a day from the Siliceous lime at 3,541-99 feet.

Muth Brothers' No. 1 Beyers, NE cor. NW Section 21-19-9w, Rice County, swabbed 134 bbls. in eight hours from the Siliceous lime at 3,213-44 feet in February, 1931.

L. E. Cress and others' No. 1 Sharpe, SE cor. NE Section 13-20-10w, Rice County, is estimated at 1,500 to 2,000 bbls. a day from the Siliceous lime at 3,318-38 feet. It was completed in April, 1931.

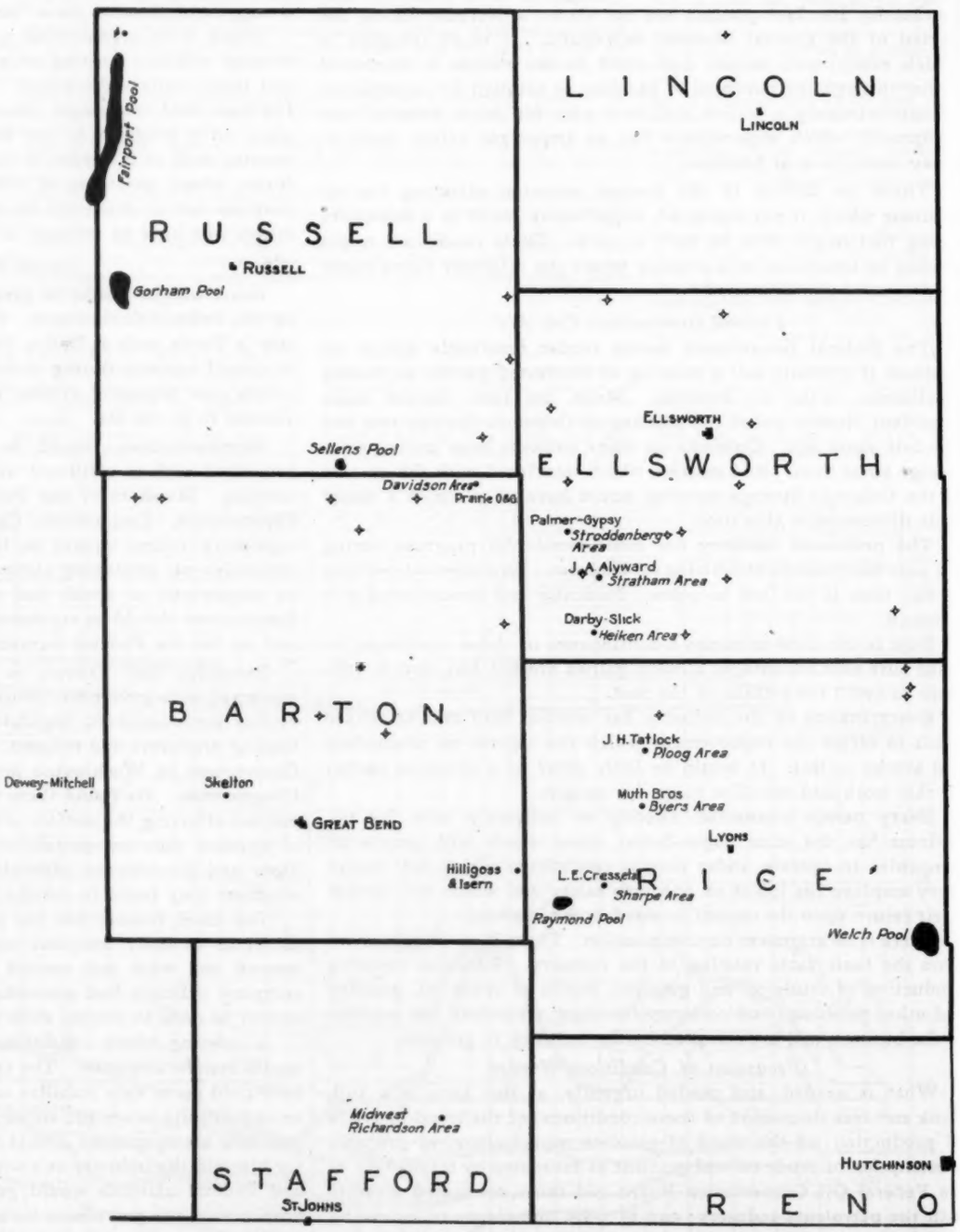
Prairie Oil & Gas Co.'s No. 1 Davidson, NW cor. SE Section 4-16-11w, Barton County, made 200 bbls. a day from the Siliceous lime at 3,316-39 feet and was shut in. It was completed in April, 1931.

J. A. Alyward and others' No. 1 Stratman, SW cor. NW SE Section 1-17-10w, Ellsworth County, was estimated at 2,500 bbls. a day from the Siliceous lime at 3,255-71 feet when it came in in April, 1931.

Palmer and the Gypsy Oil Co.'s No. 1 Stroddenberg, C SW SW Section 22-16-10w, Ellsworth County, made 100 bbls. an hour and was shut in after one hour's gauge, from Siliceous lime at 3,333-47 feet in July, 1931.

Dewey & Mitchell's No. 1 Greenwalt, C SW SW Section 17-19-16w, Rush County, completed in September, 1931,

(Continued on Page 93)



An important new field in Kansas, which may be made up of a considerable number of rich pools of small area, is indicated by the above map of the so-called Ellsworth arch area in the central part of the State. With only a few wells drilled on a crescent shaped area covering 66 miles and at an average distance of about 9 miles apart, the field, together with the potential production of the older Schurr or Raymond Pool in Rice County, is already capable of producing 20,000 bbls. a day, according to estimates. It lacks a general pipe line outlet, which may be supplied next year if conditions warrant.

Wilbur Renews His Plea for Compact

Secretary Outlines Definite Program for Oil Industry in Annual Report of Interior Department. World Curtailment Sought

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Dec. 8.—In his annual report submitted to Congress today Secretary Ray Lyman Wilbur makes a strong plea for the removal of responsibility for local problems from Washington to the communities in which they exist and he gives a prominent place in that report to efforts that have been made to re-establish the oil industry on a sound economic basis, with the oil states taking the initiative in this work.

"In the conservation of oil and gas there is just beginning to be a realization that 10 oil-producing states are trustees for the nation and must themselves act," the secretary says. He refers to the report of the committee on conservation and administration of the public domain, appointed by the president, "which has rendered a significant report recommending that in the course of the next 10 years the surface of the public domain be transferred to those states in which it lies."

"In the field of oil and gas conservation," Secretary Wilbur says, "the most significant development to date has been the one-page compact signed on September 13 by the governors of Oklahoma, Kansas and Texas, agreeing to restrict production to a scientifically determined figure. These oil-producing states, with the informal adherence of California, New Mexico, Colorado and Wyoming, have for the first time collectively used their police power for the conservation of a natural resource which is too widely scattered for any one state to control by itself.

Government's Part

"I am glad to say that the Federal Government has done its share; the conservation order of March, 1929, stopped overdrilling and overproduction in one sphere where we could control it, the public domain. As long ago as 1926 the Federal Oil Conservation Board urged an interstate agreement, and in 1929 I laid such a program before the Colorado Springs oil conference. Although the support for this program during the last five years has come largely from the Federal Government, this does not detract from the fact that the credit for the accomplishment belongs to the state executives and their public utility commissions who accomplished the job. The effect has been an immediate increase in the price of oil and a decrease in its wasteful use.

"We can look forward with some hope to a permanent working arrangement, sanctioned by Congress, which will include the following elements: An adequate conservation agency in each state, enforcing within its boundaries conservation laws which are uniform in principle with those of the other major producing states; an interstate advisory board constantly studying supply and demand and fixing periodic quotas for production by the various states; an interstate compact under which the states agree to appoint this committee and enforce these quotas, and perhaps agree on certain uniform practices of conservation; and a joint federal and state participation in negotiation with foreign governments for foreign production quotas to correspond with our own, so that conservation in this country will not be followed by excessive importations or undue loss of our export trade. Some form of federal protection of the consumer in this system is necessary."

Reduction of Imports

In further discussing the oil situation Secretary Wilbur has this to say with reference to imports:

"During the past year substantial reductions were effected in importations of oil and refined products. For the April-September period, total imports were 26.6 per cent under the 1930 figures, largely as the result of the Federal Oil Conservation Board's request of individual importers that they make their plans so as to relieve distressed domestic conditions as far as possible.

"On June 29, 1931, I reported to the senate committee on commerce, then considering an oil tariff bill and an oil embargo measure, my opinion that 'it seems to me that the evident need is proration of imports under the guidance of some fact-finding body such as the Federal Trade Commission.' I also stated: 'The program of domestic curtailment of production necessarily curtailed the oil producer's income, and naturally in seeking relief the producers have looked to a similar curtailment of imports from foreign fields. If proration is the logical method of control of supply, it would seem to be logical to apply it to imports. Briefly stated, since 1923, when exports and imports of all oils were practically equal in quantity, the exports of crude oil, and especially of refinery products, have largely exceeded them in value. Indeed, exports of petroleum products have made up the third largest item in the foreign trade of the United States. What the effect of restrictions would be upon the employment of labor in connection with oil refining and the effect upon employment in other industries is again beyond the knowledge of this department'."

"Now that we have temporarily put our house in order through the Kansas-Oklahoma-Texas compact," he continues, "it is fair to look for a permanent basis upon which the threat of excessive imports will be removed as a disturbing factor in the domestic equation without unnecessarily displacing our exports and throwing them back on the domestic structure. Difficult times should not make us lose sight of the long range view of our national resources, nor of the fact that with 20 per cent of the world's reserves, we are furnishing over 60 per cent of the world's production."

Public Lands

Reverting to the charges made by Ralph S. Kelley more than a year ago that the Interior Department had been giving away "billions of dollars" worth of oil shale lands, Secretary Wilbur pointed out that Kelley had sold confidential information from government files while still an employe of the Government. He calls attention to a bill, introduced last year by the chairman of the house committee on public lands, which he thinks should become law, which reads as follows:

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May Delay Haifa Branch of Iraq Line

Land Difficulties Threaten to Retard Construction of British Section. Plan Building of Tripoli Portion of Line on Schedule

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Dec. 7.—Construction of the British branch of the new Iraq pipe line may be materially retarded as a result of difficulties with which the builders of this portion of the line are confronted at the Haifa terminal, according to reports from abroad. Land speculators, according to these reports, have secured control of important tracts of land which will be required for the erection of tankage, loading terminals, etc., at Haifa, the seaport of Jerusalem, and the unexpected difficulties thus thrown in the path of this branch of the pipe line threaten seriously to materially retard plans for making Iraq's crude production available to world markets. The speculators who have stepped in and apparently blocked completion of the Haifa end of the Iraq pipe line production are natives.

While the British division of the line thus promises to be further delayed, the plans of Iraq Petroleum Co. call for construction of the Tripoli branch of the line, the latter part of which will run through French mandated territory, on schedule. Present arrangements call for completion of the line by December 31, 1935, and while recent reports had indicated the possibility of completion of part of the line to tidewater, before that time, later developments now make it evident that the line's builders will probably have to use all of the time allotted them under their agreement with the government of Iraq, which would mean that no Iraq crude would be ready for shipment to French and other continental refineries until the early part of 1936.

Owing to the complex nature of the makeup of Iraq Petroleum Co., which is jointly controlled by American, British and French petroleum interests (including both the French and British governments), official announcements regarding the company's plans and progress are lacking. It is understood unofficially, however, that each step in the progress of the line planning involves considerable time, necessitating as it does the approval of all of the varied interests involved. The American method of pipe line building and that followed by the foreign oil interests identified with the Iraq project conceivably involves different methods of procedure, and all of these must be reconciled to preserve harmony in the management of the initial steps in the development of Iraq Petroleum Co.'s holdings. In addition to the complexity engendered by the diverse ownership of the company, political considerations play no small part in the operations of the company.

H. S. Austin on the Job

H. S. Austin, former president of Tuscarora Pipe Line Co., and now president of the Ajax Pipe Line Co., principal overland crude oil transportation system of the Standard Oil Co. of New Jersey in this country, has been in Iraq for some months past and has taken a leading part in the technical arrangements for the construction of the Iraq line. A number of American pipe line experts have aided Mr. Austin in his work.

Actual construction of the Iraq line, however, is under the supervision of J. A. Meny, of Compagnie Francaise des Petroles while representatives of the Royal Dutch-Shell group are also taking part in the planning of the Iraq line and plans for the further development of crude production in the acreage controlled by Iraq Petroleum Co.

French interests identified with Iraq Petroleum Co. have been foremost in pressing for all speed possible in the construction of the pipe line to link the oil fields of Iraq with tidewater. It was French insistence that brought the decision to fork the Iraq pipe line (at the Euphrates) and continue the line to two separate terminals, one under French jurisdiction and the other to a British-controlled port. American interests, having no mandated lands in the Near East, have been compelled to play the part of intermediaries and to abide by the arrangements concluded by the British and French interests for the establishment of marine terminals to handle the Iraq crude.

While the American and British interests have not been eager to rush the development of their Iraq holdings, owing to the present state of overproduction in world crude oil markets, they have been forced to agree to the French proposals, both to protect their interests in the Iraq Petroleum Co.'s concessions and through sympathy with France's avowed desire to create a domestic refining industry as a national defense measure.

France is spending millions of dollars in the construction of refineries with capacity designed to take care of all domestic petroleum requirements. This refinery construction program, in the main, is scheduled for completion late in 1934. At the time that this construction work was started, it was believed that Iraq crude would be reaching Tripoli for transshipment to France by that time, but with completion of the Iraq fork now considered unlikely before the latter part of the following year, France will probably be compelled to enter the United States and other world crude oil markets to obtain supplies of crude petroleum to operate her refineries pending receipt of shipments from Iraq.

May Lack Enough Crude

While current indications point to delay in construction of the Iraq pipe line until the latter part of 1935, it is by no means certain as yet that Iraq production will be sufficiently developed to afford a steady supply of crude for the line. A number of exploratory wells have been brought in and capped on the acreage held by Iraq Petroleum Co., but thus far no additional steps have been taken for further exploitation of this acreage.

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Mid-Continent Refinery Runs Decline

Crude Runs to Stills Smaller in All Areas. Seasonal Decline in Demand for Products

By C. O. Willson

Mid-Continent refining companies with 135 plants in operation will close 1931 with their crude oil runs to stills near the low point of the year. A survey of operations completed the first of the week showed that these 135 plants would run 452,725 bbls. of crude oil to their stills daily during December, a decrease of 27,725 bbls. daily when compared with the 480,440-bbl. average for November. The figure for December shows a 25,635-bbl. decrease when compared with December, 1930, and an 87,905-bbl. decrease under the 540,630-bbl. total for December, 1929.

With the exception of March, the crude runs to stills in December will be less than any other month this year. In March the daily average crude runs to stills were 449,634 bbls. based on information obtained from the companies early in that month. It is possible that December runs will be substantially less than the totals shown in the accompanying tables. Several refiners in making their reports for December said that their present runs would be decreased or their plants entirely shut down unless market conditions improved.

The recent decline in refinery gasoline prices with no offsetting advances in other products has placed many refiners in the red so far as their refineries are concerned. A reduction in posted crude oil schedules would change this situation, but there is no certainty that this adjustment will be made by the major purchasing companies.

MID-CONTINENT REFINERY OPERATIONS

CRUDE RUNS TO STILLS

	1929	1930	1931
January 1	508,550	535,460	478,795
February 1	506,800	519,355	470,125
March 1	514,950	531,500	449,634
April 1	530,530	555,250	497,391
May 1	577,500	574,300	510,640
June 1	583,030	572,250	567,915
July 1	565,800	548,475	588,840
August 1	555,250	526,400	590,545
September 1	552,300	498,710	588,105
October 1	544,720	518,800	472,190
November 1	545,473	506,700	480,440
December 1	540,630	478,360	452,725

OPERATIONS BY DISTRICTS

	December 1		Nov. 1	
District—	Daily crude capacity (bbls.)	Daily crude runs (bbls.)	daily crude runs (bbls.)	Dec. 1 daily decr. (bbls.)
Arkansas	48,000	21,350	23,400	2,050
Kansas	151,500	85,450	86,000	550
North Louisiana	40,250	27,200	27,300	100
Oklahoma	308,800	157,500	170,800	13,300
North Central Texas	204,700	103,600	106,990	3,390
West Texas	139,700	41,775	47,060	5,285
East Texas	80,300	15,850	18,890	3,040
Total	973,250	452,725	480,440	27,725

Oklahoma

Oklahoma refiners led all the refining groups in the Mid-Continent with a 13,800-bbl. decrease in crude oil run to stills to 157,800 bbls. daily.

The reductions in Oklahoma includes two shutdowns in crude oil runs to stills. The Marathon Oil Co. has shut down its plant at Boynton and may not again fire the stills until spring. At Bristow, the Wilcox Oil & Gas Co. is not running its crude stills although the cracking equipment is still operating. The White Oak Oil Corp. also continues to restrict its operations to its cracking stills.

The Continental Oil Co. has reduced the crude runs of its Ponca City refinery from 14,900 bbls. daily in November to 12,000 bbls. in December. The runs of the Phillips plant at Okmulgee have been reduced from 5,000 to 3,500 bbls.

North Louisiana

Operations have not been resumed at the Houston lubricating oil plant of the Bayou State Refining Co. and the Shreveport plant of The Texas Company. The remaining plants will operate on the same basis as in November.

East Texas

A fire on Sunday seriously damaged the Henderson plant of the Beacon Oil & Refining Co. and it is shut down for an indefinite period. The plant has been refining approximately 1,600 bbls. of crude oil daily. It is understood that the owners expect to rebuild the plant.

This shutdown accounted for most of the decrease in East Texas refinery operations. The Taylor Refining Co. has reduced its runs at Tyler from 3,500 to 2,500 bbls. The operators in that area with the exception of three companies depend largely on local outlets for their refineries and it is believed that they will continue to operate through the month.

Arkansas

In Arkansas the Root Refining Co. also had a serious fire at its El Dorado refinery. The plant is shut down but expects to be operating later in the month. The average crude runs will be 2,000 bbls., which is 50 per cent normal. Other Arkansas operations are practically the same as last month.

West Texas

In West Texas the Big Spring plant of the Great West Refining Co. and the Pyote plant of the Tonkawa Petroleum Co. have been shut down. The former had been refining 2,500 bbls. of crude oil daily and the latter 1,500 bbls. daily. The Tonkawa plant is controlled by the Continental Oil Co. It is not known when operations will be resumed.

The plant of the Signal Refining Co. located at Texon has been added to the list of operating refineries. This is a small topping plant operated largely to stabilize high gravity crude oil before the crude is tendered to pipe lines.

North Central Texas

In North Central Texas the plant of the All State Refining Co. has resumed operations. The plant of the Dale Oil & Refining Co. which was refining 2,900 bbls. daily at Electra is shut down. The Wilcox Oil & Gas Co. has also shut down its plant at Pampa, Tex.

These decreases have been partially offset by the resumption of operation at the Wichita Falls plant of the Taxman Refining Co. and the plants of the Iowa Park Producing & Refining Co. at Iowa Park and the Kent Refining Co. plant at Minerva. Several shutdowns are in prospect unless conditions change over the next few days.

REFINERY OPERATIONS IN OKLAHOMA

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Dec. 1	Runs Nov. 1
Altitude Petroleum Corp., Oklahoma City	3,000	800	1,200
Anderson-Prichard Oil Corp., Cyril	5,000	3,500	4,000
Barnsdall Refineries, Inc., Barnsdall	6,000	3,500	4,000
Barnsdall Refineries, Inc., Okmulgee	10,000	6,500	6,000
Bell Oil & Gas Co., Grandfield	4,500	2,500	2,000
Black Gold Refining Co., Oklahoma City	1,500	800	800
Capital City Refining Co., Oklahoma City	2,500	700	200
Century Petroleum Co., Tulsa	500	(*)	(*)
Century Petroleum Co., Oklahoma City	2,500	2,000	300
Champlin Refining Co., Enid	16,000	5,500	5,000
Continental Oil Co., Sapulpa	10,000	1,500	1,500
Continental Oil Co., Ponca City	30,000	12,000	14,900
Cushing Refining & Gasoline Co., Blackwell	1,800	900	1,500
Cushing Refining & Gasoline Co., Cushing	3,500	1,700	2,500
Deep Rock Oil Corp., Cushing	10,000	9,000	10,000
Eason Oil Co., Enid	5,000	3,000	2,500
Empire Oil & Refining Co., Okmulgee	4,000	3,000	3,100
Empire Oil & Refining Co., Ponca City	12,000	8,300	8,300
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	2,000	2,000
Globe Oil & Refining Co., Blackwell	7,500	6,000	6,500
Gulf States Oil Corp., Oklahoma City	3,500	2,000	2,500
Johnson Oil Refining Co., Cleveland	6,000	4,000	4,300
McCullough Oil Co., Oklahoma City	2,000	(*)	(*)
Mid-Continent Petroleum Corp., West Tulsa	40,000	20,000	18,000
Marathon Oil Co., Boynton	2,500	(*)	1,500
Marathon Oil Co., Bristow	5,000	4,000	3,300
Peerless Refinery & Gasoline Co., Oklahoma City	2,000	(*)	(*)
Peppers Gasoline Co., Covington	1,000	(*)	(*)
Phillips Petroleum Co., Okmulgee	5,000	3,500	5,000
Producers Oil Co., Bristow	2,500	1,000	1,200
Producers & Refiners Corp., West Tulsa	6,000	3,500	4,000
Pure Oil Co., Ardmore	5,000	2,000	2,300
Pure Oil Co., Muskogee	9,000	7,500	7,500
Rock Island Refining Co., Beckett	3,500	3,500	3,500
Sinclair Refining Co. (Pierce), Sand Springs	3,000	2,000	2,000
Sun Oil Co., Yale	5,000	3,500	3,000
Sunray Oil Co. (C. H. Wright, receiver), Allen	7,000	4,000	3,500
The Texas Company, West Tulsa	15,000	10,000	13,000
Texas Pacific Coal & Oil Co., Wynnewood	3,000	(*)	(*)
Tidal Refining Co., Drumright	15,000	7,000	10,000
Western Oil Corp., Beckett	2,000	1,200	1,400
White Oak Corp., Allen	8,000	(†)	(†)
Wilcox Oil & Gas Co., Bristow	5,000	(†)	3,000
Wirt Franklin Petroleum Corp., Ardmore	4,000	2,500	3,500
Yale Oil Corp., Yale	2,000	900	1,000
York Refining Co., Oklahoma City	3,000	700	800
Total	308,800	157,800	170,800

*Shut down. †Cracking only.

REFINERY OPERATIONS IN EAST TEXAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Dec. 1	Runs Nov. 1
Arrow Refining Co., Overton	2,500	1,000	500
Beacon Oil & Refining Co., Henderson	2,500	(*)	2,000
Boone Refining Co., Arp	500	400	325
Central Refining Co., Friars Switch	10,000	(*)	(*)
Citizens Refining Co., Gladewater	800	(*)	(*)
Constantin Refining Co., Overton	3,000	(*)	(*)
Diamond Refining Co., Overton	2,000	250	275
East Texas Refining Co., Friars Switch	6,000	4,000	4,000
East Texas Refining Co., Longview	10,000	4,000	4,000
Gladetex Refining Co., Gladewater	500	200	200
Gladewater Refining Co., Gladewater	1,000	150	240
Indian State Oil Co. (W. B. MacKay), Gladewater	1,000	350	350
Kilgore Refining Co., Kilgore	1,500	700	700
Overton Refining Co., Overton	3,500	400	800
Petroleum Refractionating Co., Longview	10,000	(*)	(*)
Sinclair Refining Co., Camps Switch	5,000	1,500	1,500
Southern Oil & Refining Co., Kilgore	2,500	400	1,500
Slack Petroleum Co., Willow Springs	2,000	(*)	(*)
Taylor Refining Co., Tyler	15,000	2,500	3,500
Total	80,300	15,850	18,890

*Shut down.

REFINERY OPERATIONS IN KANSAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Dec. 1	Runs Nov. 1
Altitude Petroleum Corp., Chanute	5,000	1,000	2,000
Barnsdall Refineries, Inc., Wichita	4,000	2,750	3,000
Derby Oil Co., Wichita	7,500	3,500	4,000
Eldorado Refining Co., Eldorado	4,500	2,500	2,500
Golden Rule Refining Co., Wichita	1,500	750	800
Kanotex Refining Co., Arkansas City	12,000	3,000	7,000
National Refining Co., Coffeyville	6,500	6,000	5,000
Phillips Petroleum Co., Kansas City	7,500	6,000	7,200
Shell Petroleum Corp., Arkansas City	22,000	18,000	14,000
Sinclair Refining Co., Coffeyville	12,000	12,000	11,000
Sinclair Refining Co., Argentine	9,500	(*)	(*)
Skelly Oil Co., Eldorado	23,000	12,200	11,500
Standard Oil Co. of Kansas, Neodesha	20,000	6,000	6,000
Vickers Petroleum Co., Potwin	3,500	1,750	2,000
White Eagle Oil Corp., Augusta	13,000	10,000	10,000
Total	151,500	85,450	86,000

*Shut down.

(Continued on Page 89)

Prospecting for Gas in Quebec Area

Group of American Interests Takes Up Large Holdings and Enters on Extensive Program of Systematic Exploratory Work

By John B. DeMille
Consulting Geologist, Montreal, Quebec

Drilling for natural gas in that portion of the province of Quebec between the cities of Montreal and Quebec, is now under way. Geological field work over the last two years has indicated conditions sufficiently interesting to attract the Hope Engineering Co., Seaboard Oil Co., Henry L. Doherty & Co., and a syndicate known as South Shore Oil Lands, Ltd., which is composed of several individuals having important connections with the American oil industry. These American interests have taken up large holdings in this new Quebec district and are now entering on a program of systematic exploratory work.

Practically all the territory along the south shore of the St. Lawrence River, which is reported as having possibilities, has been taken up by the groups now in the field. The total acreage acquired comprises an area of about 1,000 square miles. The first group to enter the field in the early summer of 1930 was South Shore Oil Lands, Ltd.

After carrying on a preliminary investigation over their holdings of 120,688 acres, this group has recently succeeded in negotiating a working agreement with strong Canadian public utility companies. This agreement calls for drilling at least three deep tests. The first of these wells, No. 1 South Shore, was spudded October 13 and is now nearing completion.

Doherty Interested

Through a Canadian subsidiary, the Alberta Gas & Fuel Co., Ltd., the foreign department of Henry L. Doherty & Co. has acquired gas and oil leases covering an area of more than 60,000 acres. Although drilling plans have not yet been announced, reconnaissance and detailed geological work have been carried on over a large part of these leases, and through this work considerable new information has been contributed to a better understanding of the structural relationships involved in the St. Lawrence lowland. In the interests of the Alberta Gas & Fuel Co., considerable time has been spent in the field by Harold Moses, Linn M. Farish and L. C. Snider.

The third operator to take up acreage in this prospective gas field was the Hope Engineering Co. In January of the present year, leases totaling 193,000 acres were taken up, and on April 24, the first well was started. After four months of drilling, this well was abandoned at a depth of 2,150 feet, as a result of difficulties with caving, lost tools, and running out of hole. The rig was then skidded 50 feet to one side and a new well started on August 26. This second test is now at a depth of 2,200 feet.

Early in the summer of the present year, the Mexican Seaboard Oil Co. (later reorganized as the Seaboard Oil Co.) took up leases amounting to 121,538 acres. Without attempting detailed geological field work, the Seaboard Oil Co. contracted with the McCollum Exploration Co. for a seismic survey of its entire acreage. The results of this work made it possible to select several locations on the basis of subsurface information obtained. Seaboard's No. 1 test well was started on November 19, under contract with the Drilling & Exploration Co. of New York.

Acreage Still Held

Considerable acreage is still held in this district, surrounded by, and adjacent to, the holdings already described. These leases were obtained from the Quebec government by Louis Brochu, of Montreal, who first entered the field in December, 1929. It was largely due to this individual's interest in testing the gas possibilities of the St. Lawrence lowland that American operators were induced to take a portion of his holdings for detailed study and exploration by drilling. Mr. Brochu was instrumental in having a preliminary geological investigation made of the field, and information thus obtained was found to be sufficiently encouraging to attract outside interests.

The large scale activity now in evidence involves no public financing, with the exception of the St. Lawrence Oil & Gas Syndicate, of Montreal, which controls a block of leases surrounded by holdings of the Hope Engineering and the Seaboard companies. The syndicate has announced plans for drilling its properties as soon as financing will permit. With nearly all the territory on the south shore of the St. Lawrence River, offering any possibility for gas production, taken up by the groups mentioned, and with the ground closely held in this way, the possibility of a promotion boom has been reduced to a minimum.

Earlier Developments

Sir William Logan, founder of the Geological Survey of Canada, was probably the first to draw attention to the gas possibilities of Quebec. In 1863, he published results of a study of the structural features of the St. Lawrence lowland, and pointed out the economic possibility of the Trenton limestone, which underlies most of this district.

In 1884, J. Obalski, commissioner of crown lands for the province of Quebec, called attention to "some very considerable emanations of combustible gas" which had been noticed in numerous localities ever since the country has been inhabited. He also advanced the theory that "there exist quantities of petroleum from which the gas is continually being formed."

The year after Mr. Obalski made his report on gas seepages, and following his recommendation, a well was drilled to a depth of 1,115 feet on the farm of Hilare Trudel, near the village of St. Gregoire. In 1886, Obalski reported it to be giving off a considerable quantity of gas, which he estimated at 250,000 feet per day. He also noted that the flow had persisted at that time for a period of 4½ months. High pressure made it impossible to plug the casing and the well ran wild for 22 years. The casing was finally capped in 1907, and since that time, several nearby farm houses have been using the gas for all lighting and heating purposes. This is the first well, drilled south of the St. Lawrence River, which might be reported as having had commercial possibilities, its long life being a feature of particular interest.

Dr. A. R. C. Selwyn, director of the Geological Survey of Canada, reported in 1887 as follows: "An important consideration in connection with the probable occurrence of these reservoirs of gas and oil is that of the geological structure of the district; and while, for reasons in connection with this, I have never had any faith in their occurrence on the north side of the St. Lawrence River, I consider that the probability of such reservoirs on the south side is very great."

General Geology

The valley of the St. Lawrence River, between Montreal and Quebec, comprises the central part of a large structural basin, underlain by Palaeozoic rocks in a comparatively undisturbed state. The stratigraphic succession of these beds, in descending order, is as follows: Queenston red shales, up to 1,600 feet in thickness; Lorraine gray shales, sandstone, and limestone, from 1,500 to 3,000 feet in thickness; Utica carbonaceous shales, about 300 feet; Trenton limestone, 500 to 600 feet; Chazy sandstone, shale and limestone, from 300 to 795 feet in thickness; Beekmantown dark magnesian limestone, 350 to 1,000 feet in thickness; and the underlying Potsdam red and white sandstone, conglomerate and arkose, which reaches a thickness of from 100 to 450 feet. Underlying this series of beds are the Precambrian crystalline rocks.

Because of the thickness of the sediments above the Trenton limestone, which varies locally from 3,000 to 5,000 feet, early drilling operations in all probability failed to reach this promising productive horizon. The Queenston, Lorraine, Utica and Trenton beds were originally laid down flat, or nearly so, under the Ordovician Sea. They extend parallel with one another with no evidence of disconformity. Subsidence of the St. Lawrence lowland to form an extensive northeast-southwest trending trough introduced some degree of inclination, characteristic of the original geology of this geosyncline. The normal dip of the strata now known along the north edge of this trough, from 3 to 5 degrees, is a possible result of the downwarping movement.

The flexures developed at that time were subsequently complicated by more or less sharply developed folds. It is probable that folding was started during the Caledonian revolution of Siluro-Devonian time, and may have been still further developed during the Appalachian revolution at the close of the Palaeozoic.

The surface geology indicates that the beds above the Trenton are more closely compressed and contorted along the southern margin of the trough. The term "Deschambeault anticline" has been adopted as descriptive of a more or less continuous zone of steeply inclined and faulted strata which forms the southern boundary or rim of this trough, and

(Continued on Page 92)

EXTENSIVE GAS PLAY ALONG THE ST. LAWRENCE RIVER IN CANADA

HE, Hope Engineering Co.; SO, Seaboard Oil Co.; SS, South Shore Oil Lands; AF, Alberta Fuel & Gas Co.; SH, St. Hyacinth Gas Co.; SG, St. Lawrence Gas & Oil; LB, Louis Brochu; LO, Lanoraie Oil & Gas; SP, St. Paul Oil & Gas.

Sinclair Completes Refinery Program

Spends $18,000,000 in Various Phases of Plant Improvement and Enlargement. Announces New Gasoline

In connection with the introduction of a new grade of regular gasoline at its stations throughout the Middle West, the Sinclair Refining Co. last week announced the completion of an $18,000,000 improvement and enlargement program at its refineries. The Sinclair company has been actively expanding the cracking facilities at some of its refineries throughout the year and important changes have been made in other phases of plant operation.

In line with the trend toward higher antiknock ratings in regular grades of motor fuel the Sinclair company's new fuel, as announced in full page advertisements in Chicago and other points, has a "70 per cent higher antiknock (superior to some premium gasolines)—quicker cold weather starting—all yours at no increase in price." Tests made in Chicago the first of the week indicated an octane number of from 68 to 70 and the Sinclair company, it is understood, expects to increase this later. The distillation range was substantially better than U. S. Motor gasoline requirements. The octane rating is substantially higher than that of regular grade motor fuels in the Middle West and establishes a new standard for that territory.

The Sinclair refinery improvement program will enable the company to manufacture large quantities of the new gasoline centered in the company's three largest refineries located at Houston, Tex., East Chicago, Ind., and Marcus Hook, Pa. The company also has built a new topping plant near Gladewater, Tex., to take care of local requirements in that section of the state and rebuilt a topping plant located at Fort Worth. This plant, which had been shut down for several years, was acquired from the Pierce Petroleum Corp. when the properties of that corporation were merged with those of the Sinclair company. Early in the year the company completed an extensive building program at its Wellsville, N. Y., refinery. This program centered around new equipment for the manufacture of lubricating oils from Pennsylvania grade crude oils. Cracking equipment was added. The company also has refineries located at Sand Springs, Okla., Coffeyville, Kans., and Argentine, Kans. The latter plant has been shut down temporarily.

Houston Refinery

The Sinclair refinery at Houston has been enlarged so that it now has a rated crude oil capacity of 50,000 bbls. daily.

The East Chicago refinery has a capacity of 45,000 bbls. daily and that at Marcus Hook, Pa., 20,000 bbls. daily. The improvements made at one or more of these refineries include every phase of refinery operations. Crude distillation, vacuum stills, rerun units, cracking stills, gas recovery systems, new tankage and additional power plant equipment has been installed. The cracking equipment includes stills of the de Florez type especially designed to manufacture high antiknock gasolines.

Changes and additions at the Sinclair refineries are in line with improvements being made or planned at a large number of small and major refineries in all parts of the country. During the past week the White Eagle Oil Corp., one of the Middle West refining and marketing subsidiaries of the Socony-Vacuum Corp., also announced a "New Improved Banner Winter Proof Gasoline." The "quicker starting, faster pick-up of cold motor and smoother knock-free performance" are emphasized in the company's advertising. The White Eagle corporation, during the year, has made extensive improvements at its 10,000-bbl. refinery located at Augusta, Kans. These improvements included cracking equipment which have made it possible for the company to manufacture the new gasoline.

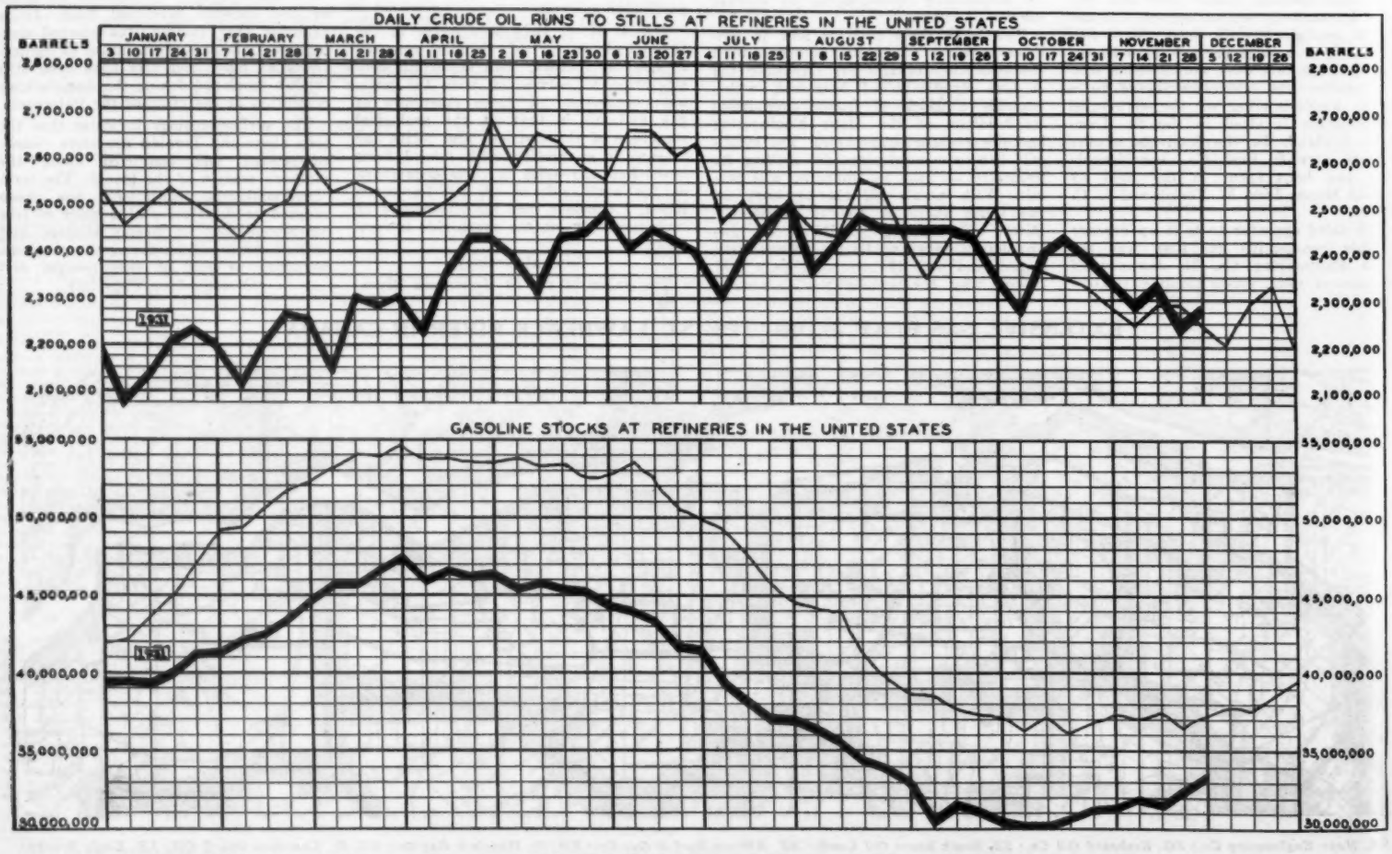
(Continued on Page 93)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending December 5:

	Week ending December 5, 1931				Week ending November 28, 1931				Week ending December 6, 1930			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100 0	425,600	4,221,000	9,723,000	100.0	438,000	4,231,000	10,202,000	100.0	446,000	5,427,000	10,852,000
Appalachian	91 8	100,100	1,166,000	1,648,000	90.8	99,500	1,204,000	1,664,000	93.8	82,600	829,000	1,035,000
Indiana, Illinois, Kentucky	98 9	293,300	3,534,000	5,775,000	98.9	319,000	2,437,000	5,852,000	97.5	252,300	4,193,000	3,868,000
Oklahoma, Kansas, Missouri	89.6	224,900	3,023,000	4,606,000	89.6	235,400	2,828,000	4,790,000	89.4	237,400	2,413,000	4,538,000
Texas	91 3	533,400	6,922,000	11,735,000	91.3	532,400	6,668,000	11,923,000	91.9	463,800	6,896,000	10,775,000
Louisiana and Arkansas	98 9	158,600	972,000	3,937,000	98.9	162,700	1,032,000	4,070,000	98.3	145,900	1,201,000	2,224,000
Rocky Mountain	89 4	37,100	1,387,000	797,000	89.4	50,200	1,366,000	898,000	93.1	39,700	1,548,000	1,026,000
California	97.1	440,400	13,031,000	96,943,000	97.1	455,400	12,919,000	97,069,000	98.8	519,600	15,235,000	104,546,000
Total United States	95 2	2,213,400	34,256,000	135,164,000	95.2	2,292,600	33,685,000	136,439,000	95.7	2,187,300	37,742,000	138,864,000
Texas Gulf Coast	99.8	431,400	5,272,000	8,654,000	99.8	412,600	5,043,000	8,680,000	100.0	353,300	5,663,000	8,101,000
Louisiana Gulf Coast	100 0	114,100	820,000	3,151,000	100.0	116,400	876,000	3,264,000	100.0	108,700	935,000	1,253,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



Data for 1931 based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above tables.

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The Oil and Gas Journal

PRODUCING REFINING PIPELINE ENGINEERING MARKETING

Published Weekly by
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Established as an International Publication in 1910 by Patrick C. Boyle.

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Two Types Czechoslovakian Crude Oils

One Grade Has Naphthenic Base and Other Paraffin Base. Substantial Yields of Refined Products Obtainable

By E. F. Nelson and Gustav Egloff
Universal Oil Products Co.

Czechoslovakian oil fields yield two kinds of petroleum—a naphthenic crude similar to that from Refugio, Texas, and a paraffin base crude somewhat similar to our Pennsylvania oil. The former is obtained from the Miocene stratum and is produced in Egbell Field and in the Hodonin area. The paraffinic oil is obtained in much smaller quantities in the regions of Bohuslavice, Turzovka and Mikovd.

SERIES ON REFINING

The accompanying article is the fifteenth of a series published exclusively in The Oil and Gas Journal describing the results obtainable in refining representative domestic and foreign crude oils. Additional analyses of foreign crude oils will appear in later issues. Previous articles appeared as follows:

October 22, page 22—Argentina.
October 1, page 22—Peru.
September 3, page 30—Germany.
August 6, page 20—Egypt.
July 23, page 22—Venezuela.
July 2, page 16—Michigan.
June 18, page 22—Van, Tex.
May 21, page 40, Joiner, Tex.
April 23, page 30—"Unrefinable crude oils."
April 16, page 30—Mid-Continent.
April 16, page 30—Pettus, Tex.
April 16, page 30—Kentucky.
April 2, page 30—West Tex.
March 5, page 88—Oklahoma City.
February 19, page 30—South Texas crudes.
February 12, page 38—Pennsylvania.

Czechoslovakian crude oil production over the period from 1914 through 1929 may be seen in the following table:

OIL PRODUCTION IN CZECHOSLOVAKIA

Year—	Crude oil bbls.
1914	10,990
1915	29,400
1916	32,850
1917	59,600
1918	64,450
1919	47,050
1920	69,700
1921	93,450
1922	119,700
1927	115,318
1928	97,538
1929	105,507
1930	*200,000

*Estimated.

Production for the first six months of 1930 increased 90 per cent over the corresponding period in 1929, due to the expansion of the Egbell region. The Egbell and Hodonin Fields in Czechoslovakia are the most important, yielding oil of about 19° A.P.I. gravity. These crude oils are obtained from the Sarmatic level at about 493 feet and from the Mediterranean level at about 1,000 to 1,200 feet. Their average sulphur content is about 0.2 per cent. The paraffin base crudes of Czechoslovakia are produced from depths of 185 to 700 feet and average about 47° A.P.I. gravity. A series of comparative analyses of the five Czechoslovakia crude oils is portrayed in the table.

Refineries

The 11 petroleum refineries[1] in Czechoslovakia have a total annual crude oil capacity of 2,499,875 bbls. Six plants account for 84 per cent of the total capacity, while out of the remaining plants, which are of minor importance, two refineries handle no crude but only semirefined petroleum.

Apart from refining crude oil all the Czechoslovak refineries work up imported semirefined oil to a large extent, and it is estimated that their annual capacity for the refining of such products totals 600,000 metric tons. Petroleum refineries in Czechoslovakia are largely owned or controlled by Austrian, French, or Polish capital.

During 1929 a number of Czechoslovak refineries undertook new installations as well as extensions of existing plants, chiefly for the purpose of increasing their gasoline-producing capacity. The new equipment is practically all of domestic make.

Czechoslovak petroleum refineries manufacture the following products, in order of their importance: Gasoline, kerosene, fuel oils, lubricating oils, gas oils, light oils, and paraffin. Cylinder oils and special lubricating oils, such as oils for steam turbines, water turbines, and other special machines, are also produced, but only in negligible quantities.

Accurate oil figures for Czechoslovakia are not available. The following estimates of annual production, which are based on the estimated annual consumption and exports and imports of mineral oils, may be regarded as fairly reliable:

	Bbls.
Domestic and imported crude (runs)	2,126,706

OUTPUT

Gasoline	960,314
Kerosene	559,068
Lubricating oil	241,025
Gas and fuel oil	251,374
Miscellaneous	51,124
Losses	63,801
Total	2,126,706

With the increasing use of motor vehicles and the gradual motorization of many industries in Czechoslovakia, gasoline consumption has advanced rapidly. Compared with the domestic use of gasoline in 1928, which amounted to about 1,105,000 bbls., the consumption in 1929 showed a substantial increase, totaling 1,402,500 bbls. An increase, though on a much smaller scale, was also noted in the consumption of kerosene and lubricating oils, the former having increased from 573,500 bbls. in 1928 to 589,000 bbls. in 1929 and the latter from 378,000 bbls. in 1928 to 406,000 bbls. in 1929. The use of paraffin, however, decreased slightly.

Cracking of Crude Oils

A number of cracking tests were made on the entire Egbell and Hodonin crude oils, the charging stocks for the tests showing the following properties:

	Egbell	Hodonin
A.P.I. gravity	19.7	23.6
Flash, open cup, °F.	230	190
Fire, open cup, °F.	260	235
Flash (Pensky) °F.	220	175
Furol visc. at 77° F. (sec.)	44	15
Sulphur, per cent	0 12	0.11
Cold test, °F.	Below 0	Below 0
B.s. and water, per cent	0 2	Trace
I.B.P., °F.	456	398

A.S.T.M. 100 CC. DISTILLATION

% distilled over—	Temp., °F.	
10	510	458
20	548	596
30	587	536
40	624	576
50	662	618
60	699	664
70	718	710
80	729	736
90	734	748
Endpoint	741	760
Pct. coke by weight	2 1	0 8
Pct. at 400° F.	0.0	0 5
Pct. at 410° F.	0 0	3.5
Pct. at 437° F.	0.0	6 0
Pct. at 572° F.	26 0	39.0

These crude oils were subjected to cracking by the flashing method to produce about 50 to 60 per cent of cracked gasoline of 89 and 86 octane number, and flashed residues of marketable properties. The operating conditions for the tests reported here are summarized in the table:

Crude source—	Egbell			Hodonin	
Run No.	1	2	3	4	5
Pressure lbs./sq. in.					
Reaction chamber	350	350	350	352	353
Flash chamber	50	50	50	52	54
Temperature, °F.					
Transfer	927	939	941	933	956

The percentage yields of cracked gasoline, flashed residue, and gas and loss from these tests are shown in the following table along with the volume of uncondensable gas per barrel of crude oil charged.

SUMMARY OF CRACKED PRODUCTS

Run No.—	1	2	3	4	5
Gasoline, per cent of charge	50.3	52.1	55.9	54.7	61.0
Residue, per cent of charge	42.2	38.5	36.5	33.8	29.2
Gas and loss, per cent of charge	7.5	9.4	7.6	11.5	9.8
Gas (cu. ft./bbl. charge)	555	530	597	596	614

Cracked Gasolines

The gasolines obtained from the Egbell crude oil had endpoints of 386, 399 and 404° F. and a knock rating of 89 octane number in each case. Those from the Hodonin crude had endpoints of 388 and 394° F. and an octane number of 86. The sulphur content of the gasolines was less than 0.1 per cent and their distillation characteristics were as follows:

Run No.—	1	2	3	4	5
A.P.I. grav.	54.1	51.8	51.7	53.6	51.9
I.B.P.	91	84	92	88	88

A.S.T.M. 100 CC. DISTILLATION

% distilled over—	Temp., °F.				
10	137	149	150	152	148
20	178	189	192	188	186
30	214	229	226	222	233
40	244	262	259	254	256
50	271	294	289	278	285
60	297	320	317	301	310
70	320	342	341	321	334
80	342	365	362	340	354
90	368	385	390	363	378
Endpoint	386	399	404	388	394
Octane No.	89	89	89	86	86

Flashed Residues

The flashed residuums obtained from these cracking tests on Egbell and Hodonin crude oils represented 29 to 42 per cent of the charging stock and varied in gravity from —0.8 to 5.3° A.P.I. The residues from Runs Nos. 1, 2 and 4 were satisfactory fuel oils according to Bunker C specifications. Those from Runs Nos. 3 and 5 were used as stock from which

(Continued on Page 79)

CZECHOSLOVAKIAN CRUDE OILS*

Source—	Egbell Miocene	Hodonin Miocene	Bohuslavice	Turzovka	Mikovd
Geol. Origin	Sarmatic Str.	Medit. Str.	Eocene	Eocene	Eocene
Depth, feet	493	1,033	295	647	185
Color:					
In refl. light	Brown-green	Red-brown	Green	Green	Black
In transm. light	Red-brown	Red-brown	Red like refined spindle oil	Red	Black
Transparency mm. (depth at which a newspaper can be read)	2	25	85	9	Opaque
A.P.I. gravity	19.8	18 7	49 1	36.7	46.3
Refractive index at 20° C.	1.4979	1.4970	1.4428	1.4665	1 4661
Visc. Engler:					
At 20° C.	15 70	10 5	1.01	1.51	1 14
At 50° C.	3 43	.....	.....	.....	.....
At 100° C.	1.45	.....	.....	.....	.....
Flastpoint:					
Open cup °F.	235	237	Below 32	135	Below 32
Pensky °F.	234	.....	.....	.....	.....
Firepoint °F.	302	303	Below 32	171	Below 32
Solidpoint °F.	0 (liq.)	0 (liq.)	+5 (sol.)	56 (sol.)	0 (liq.)
Org. acids:	1.43	1 49	Neutral	0 66	0 14
(mg. KOH 1 gm. oil)					
Hanna Iodine No.	11	13	13 5	11	8 5
Asph. insol. in gasoline, per cent	0	0	0	0	0
Asph. insol. in alcohol and ether, per cent	0.27	0	0	0.05	1.13
Sulphur, per cent	0.25	0.20	0 26	0.24	.....
Paraffin, per cent	0	0	2 3	7 9	2.6
DISTILLATION, PER CENT BY WEIGHT					
I.B.P., °F.	419	410	135	280	131
To 266 per cent	.....	.....	27 (0.7235)	.....	30 5 (0.717)
266-302 per cent	.....	.....	10 (0.760)	1 (0.779)	7 5 (0.755)
302-482 per cent	2 5 (0.878)	3	29 (0.800)	29 (0.795)	23 (0.789)
482-572 per cent	28.5 (0.896)	28 0	9.5 (0.849)	22 (0.836)	11 (0.828)
Residue, per cent	67.5 (0.953)	67 0	14 (0.887)	47 (0.868)	27 (0.888)
Props of residue	Liq. at 5° F. No paraffin, soft asphalt	Liq. at 5° F	Fire above 81° F. Paraffin 16.1% Soft asphalt 0.03%	Fire above 79° F. Paraffin, 16.7% Soft asphalt 0.55%	Fire above 76° F. Paraffin 1.3% Soft asphalt 3.85%

*Pet. 2 18 321 (1922) Schulz.

[1]Petroleum Refineries in Foreign Countries, 1930, U. S. Bureau of Foreign and Domestic Commerce.

Cheap crude shouldn't mean more work for the crude stills but more Dubbs cracking

Pump any kind of crude oil into one end of an improved Dubbs cracking unit and take off finished gasoline at the other—all cracked gasoline

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Universal Oil Products Co
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Dubbs Cracking Process
Owner and Licensor

Noticeable Decrease in Lease Acreage

Several Conditions Have Combined to Make It Necessary for Oil Companies to Cancel Many Leases in Mid-Continent Area

By L. G. E. Bignell
Petroleum Engineering Editor

The endeavor to secure concerted action on the part of the leaders of the industry in having enacted new laws in the several oil producing states that will permit the owners of land recognition of the right to the oil and gas in place under their property is in keeping with the development of an understanding of the natural laws that govern the deposition of these products in their reservoirs underground and is a move in the right direction and if accomplished will do much to stabilize the future development of the industry.

Present System Unequitable

It is generally recognized that under the present system of leasing land for the privilege of exploring for oil and gas the rights conveyed are very limited and consist principally of permission to drill for oil and gas upon the property in question and at the same time imposes upon the lessee obligations to perform certain acts to protect the assumed rights of the landowner.

Stated in another way, when individuals or companies acquire lease to land for the privilege of exploring for oil and gas they are assuming at the same time an obligation to protect the rights of the property owner or leasor in that oil and gas that may be under his property and under the present system of operation and laws of the various oil states this simply means the oil company is committed to drill in competition with anyone who may decide there is oil or gas under his property and if his hopes are realized all adjacent land must be promptly drilled if the oil and gas lying under it is to be reduced to possession.

Such a competitive system has in the past built up practices that are now obnoxious to the oil companies for they have come to realize that with the advance of the science of geology, engineering and production of oil the great uncertainties have been removed. This does not mean that science has yet developed any methods by which oil and gas in place can be detected and the pool outlined in advance of drilling, but it is now possible to at least outline with some degree of accuracy the general shape and size of the structure in which it is possible for oil and gas to have accumulated.

A structure once outlined becomes a possible potential reservoir for oil and gas and for exploration to recover same, and it is therefore now becoming the accepted practice to be guided in leasing land largely by the recommendations of the geological department of the oil company.

After a lease has been acquired the geological and land department will follow development in the general area in which the property is located and if it is favorable the acreage may be drilled.

On the other hand, if it is found that there has been no development near the lease and its value has therefore not been increased and it appears possible to release it again at later date the lease may be allowed to lapse by nonpayment of rentals. If the price demanded for the lease was high and efforts that were made to have others join in a test well to explore it have failed the lease may be turned back to the leasor.

Much Acreage Now Being Turned Back

To ascertain the exact amount of land that has been under lease at one time or another in this country is almost impossible but it is known that during the past it has been very common practice for oil companies to "checkerboard" whole counties and even large portions of states where it seemed at all possible that there would be any activity in drilling. In the Southwest, where much of the recent oil development has been going on, land is plentiful and it was therefore quite easy to secure a lease from a farmer or other landowner by payment of a bonus and assuming obligation to pay a rental for the land for the term of the lease.

Most leases were based upon a five-year term and the rental was usually at the rate of $1 per acre per year. The amount of the bonus paid depended largely upon the conditions that existed at the time the lease was made and the

(Continued on Page 96)

AJAX CONTRACT REPORTED LET BUT PITTSBURGH WITHOUT NEWS

A report from Cleveland, Ohio, says:

"The Ajax Pipe Line Co. has let steel contracts for 62,500 tons of 10-inch line pipe for a third pipe line running from Glennpool, near Tulsa, to Wood River, north of St. Louis. The new line will be 700 miles in length, according to reports from the Pittsburgh, Pa., steel companies filling this order.

"The Ajax company already operates two 10-inch lines from Glennpool to Wood River, with a combined capacity of 65,000 bbls. of crude oil daily. Its present lines are running an average of 60,000 to 61,000 bbls. of oil daily to its Wood River terminal and the Illinois Pipe Line Co. carries this crude to northern and eastern points for delivery to eastern pipe lines. The Illinois Pipe Line Co. has handled as much as 65,000 bbls. of oil from the Ajax terminal at Wood River.

"Ajax company's new pipe line will cost approximately $7,500,000 and will employ between 500 and 1,000 men in its construction.

"Magnolia Petroleum Co., subsidiary of the Standard Oil Co. of New York-Vacuum Oil Co., but recently let steel orders for a similar pipe line from its Oklahoma terminal to Wood River, Ill.

"Other steel pipe contracts let recently to Pittsburgh Steel interests include an order for 10,000 tons of pipe for the Continental Construction Corp., which will extend its Illinois gas line."

Inquiries in Pittsburgh, Pa., brought the response that while the Ajax line was talked of a couple of months ago it has not approached the closing stage, while there are no indications in pipe mill circles that a Magnolia line is being considered.

Late Fields

GULF COAST

HOUSTON, Tex., Dec. 8.—Cullen & West have added their fourth consecutive deep sand producer to their Thompson Field, Fort Bend County, by completion of No. 2 H. P. Lockwood, southwest side, which came in flowing 110 bbls. an hour through a three-quarter inch choke from sand at 5,130-80 feet. Eighty feet of 4¾-inch screen was set. Pressure gauges 275 pounds.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Dec. 8.—The Texas Company completed three wells in the southern end of the Darst Creek Field, the first drilling that has been done by any company in the field since early in the year. No. 7 Lemmie Anderson at 2,609 feet made 1,000 bbls. fluid, 10 per cent water; No. 4 Parish at 2,609 feet, 775 bbls., 10 per cent water; No. 7 Henry Willie at 2,616 feet, 510 bbls., 30 per cent water.

Carsill Oil & Gas Co. shot No. 3 McGill in northwestern Jim Wells County and is now cleaning out the bridge with probability that the shot has increased the production. The well was shot some weeks ago with a light shot. The second shot was much heavier. It was shot at 2,772-94 feet.

Hughes' No. 1 Martin, in Bee County, half mile south of Simms Oil Co.'s discovery gas well on Holzmark farm, at 3,555-63 feet, cored sand saturated with oil. Simms has two big gas wells topping sand at 3,552 feet and Hughes' is the first and only test drilled since. Hughes' test is 71 feet lower by subsea than Simms'. Now trying to get drill stem test. Simms holds a big block which this well will prove up.

KANSAS

Darby Petroleum Corp. and others' No. 4 Kaegi, NE cor. SE NE, Section 20-19-1w, Ritz-Canton Pool, in McPherson County, Kansas, flowed 40 bbls. of oil an hour for four hours from the Viola lime at 3,368-75 feet. The well extends the Viola Lme production a mile to the north and east on the northeast edge of the field. It will be drilled deeper.

Continental Oil Co.'s No. 1 Casey, in Section 15-25-1, Goodrich Pool, Sedgwick County, made 566 bbls. of oil in 21 hours from Kansas City lime at 2,614-16 feet. It is the first well in the Goodrich Pool to produce from that horizon.

A Barton County wildcat found water in the Silicious lime and will be abandoned. Syndicate Oil Co.'s No. 1 Boretz, NW cor. SE SE, Section 3-18-12w, found the lime at 3,427-45 feet, with some water, and it was drilled to a total depth

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MAGNETIC STORM

The Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey reports that a moderate magnetic storm started at 2 a. m. (C.S.T.) on the second and ended at 7 p. m. (C.S.T.) on the fifth. The telegrams follo[w]:

"Storm began sec[ond]. Eight. Moderate. Storm ended fifth. One."

High Spots in Field News

GULF COAST

North Refugio County well opens new field. District made up of large blocks, assuring systematic development.

CALIFORNIA

California producers again warned of necessity for continued co-operation to avoid repetition of collapse of last spring.

SOUTHWEST TEXAS

New Pettus Pool well makes 355 bbls. Three good wells in Escobas Pool, Zapata County. Important Carolina-Texas field test.

NORTH LOUISIANA, ARKANSAS, MISSISSIPPI

Smackover test now 7,255 feet deep. Good gas wells in Richland Parish and in Jackson, Miss., field. Many wildcats in Zwolle area.

OKLAHOMA

New wells in Oklahoma City Pool indicate extensive drilling campaign in southwest edge of field. Four recently completed wells average 30,000 bbls. per well.

KANSAS

Extension well in Ritz-Canton area estimated at 1,000 bbls. Goodrich Pool well, in Sedgwick County, made 566 bbls. from Kansas City lime in 21 hours.

ROCKY MOUNTAIN AREA

Increased drilling in Eddy County, New Mexico. First test of Dakota sand in Greasewood Pool disappointing. New tests at Frannie, North Geary and in Salt Creek.

EAST TEXAS

Rate of new locations maintained with 128 during week, and 128 completions. Now 697 drilling activities in field, with total of 3,351 completions. New order on allowable expected.

WEST TEXAS, NORTH TEXAS AND PANHANDLE

Western Crane County test fails to pick up discovery pay. Western Ward County well not yet completed. Deeper test in Irion County. Meeting to discuss Panhandle gas payments called. Ten locations in Ranger and Wichita Falls districts.

East Texas Maintains Location Rate

Reports 128 During Week and Same Number of Completions. Now 697 Active Operations. New Wildcats in Bowie and Taylor

By L. E. Bredberg

DALLAS, Tex., Dec. 7. — Locations are not subsiding one whit in the East Texas district, activities having picked up in number this week over the previous week, although the field has been nothing short of a sea of mud and water, with roads through the fields having vanished during the last 10 days.

There were 128 new locations staked in the district, and 128 wells completed, with northern Gregg leading in activities as it has been during the past few years. There were 57 locations staked in that area this week and 48 wells completed. Southern Gregg received 29 new locations and southern Rusk 34 locations. Seventeen wells were completed in Upshur and seven locations were staked in that county. One wildcat location was staked in Bowie County, and one in Tyler County.

There are 697 activities in the district at this writing, including the new locations. There are 305 wells drilling, 176 derricks standing, 35 rigging up and 53 shut down. Last week there were 657 activities in the field.

Regarding activities of the military authorities in the district, it appears as if another proration system was to be inaugurated, the rescinding of a recent order cutting the wells down to 110 bbls. per day also giving cause to believe that some new plan may soon be adopted for curtailing drilling activities and production in the field.

Production for the 24 hours ending at 7 a. m., December 7, from 3,303 wells reporting production was 411,500 bbls. There was a total of 3,351 wells completed in the field at 7 a. m. of December 7. An average of 25 wells per day report no production, either because of the wells being paraffined and being cleaned out, or some of the wells not flowing and standing, waiting for installation of pumping equipment.

Production has exceeded daily distribution around 13,000 bbls. per day during the week, this amount of production going to storage. Pipe line runs through trunk lines are approximately 33,000 bbls. less per day than production, pipe lines not running to capacity, and some of the purchasing companies cutting loose from some connections.

New Order Expected

A new curtailment order is expected this week from Governor Sterling, but no one seems to have any idea as to just what is to be done or what the new allowable per well will be for the field. He desires to keep the field curtailed to below 400,000 bbls. per day, consequently a new order is expected at any time due to the field having produced over this amount during the past week. A modified acreage basis and well allowable plan is being considered by the governor, although it is not known that he has intentions of trying such a plan. One such plan was published on Page 102 of the December 3 issue of The Oil and Gas Journal.

During the past two months there has not been an exceptional amount of wells going dead and needing swabbing or pumping to agitate and make them flow, or wells being put on the pump, although there have been a few edge wells drilled from time to time which have needed and been equipped for pur ng. The accompanying report will give a clear conception of number of pumping and dead or standing wells, and those wells needing agitation to make them flow. Twelve wells which were carried as standing or dead two months ago have been equipped with pumping equipment and are now producing, some of them needing only agitation on pump to make them flow their daily allowable of 125 bbls. The majority of the pumping and dead wells are on the eastern side of the Joiner Pool, Rusk County, although during the past month there have been several wells drilled in the Kilgore, Lathrop and Gladewater areas which have needed agitation or pumping to produce them, with one well on the eastern side of the Kilgore area being shot to prove it up as a producer.

Flank Leases

Flank leases in East Texas are not considered "so hot" now, and several of the major companies which hold such acreage have "farmed out," subleased, some of it to independent operators and smaller companies, those companies contracting to pay the seller in oil, very little money changing hands in these deals. The proximity of water on the western edge, and the small potential of the wells on the near eastern edge are responsible for the disposal of these leases.

Paraffining Causing Trouble

Paraffining is causing considerable trouble to those operators who are flowing their wells over 12 and 24-hour periods, the smaller velocity of flowing being responsible for quicker paraffining, while companies which are flowing their wells open for two and three-hour periods to obtain their allowable are keeping down paraffin to a smaller extent. Pipe line companies interviewed in regard to the paraffin problem report that they have not had any trouble with paraffin to date, but expect colder weather to give them more work in keeping the lines scraped and cleared of paraffin. One company which has a large gravity gathering system in Gregg County reports that these lines have given no trouble so far. Some of the operators have been using chemicals for the past few months to prevent and keep down paraffin in the tubing of their wells, and find it quite successful.

Important Wildcats

There are two wildcats of considerable importance in the district at present. One is Peyton Brothers' No. 1 Perry in a 136-acre tract in the N. L. Sparks Survey, 2 miles south of production in the Joiner area, southern Rusk County, and the second one is Shasta Oil Co.'s No. 1 Hall in the R. T. Gibson Survey, north of Jamestown in Upshur County. The former test is now shut down at 3,615 feet, running about normal with producers to the north. It topped the Austin chalk at 3,498 feet, or at a minus 3,081 feet. Elevation of the test is 417 feet. If this proves a producer, general opinion holding that it will, it will prove up several hundred more acres for production in the pool and give the three tests of The Texas Company, a little farther south, more chance for making production, and add to the possibilities of the Pure Oil Co.'s large block of acreage in this area, the block in which the Stanolind Oil & Gas Co. lately acquired a half interest.

The second test, in Upshur County, has not yet reached the Austin chalk at 3,675 feet, the well now drilling below this depth. Pecan Gap chalk was logged from 2,470-3,055 feet, but this chalk is not considered as the most authentic marker in the district. Elevation of the test is 349 feet. This test is around 6 miles northeast of Cranfill-Reynolds' No. 1 Rash in the Eubanks Survey which encountered a good oil showing, and which has been shut down for the past three weeks at 3,728 feet after setting casing.

Wells Making Water

There are 33 wells now making water in the producing area, the greater majority of these being in the Kilgore area, the area in which salt water was first encountered, on the western edge of the pool. There are several others reported making 1½ per cent and less water, but these are not added to the above total, this amount being negligible. Two of the 33 wells are in the Longview area and one is in the Smith County extension of the Joiner area. Several wells have been plugged back in the Kilgore area, and the western edge of the Gregg producing area to shut off a large amount of water. The wells so plugged back are now free of water. Salt water is not considered as great a threat in the field as it previously was when the first water was encountered, but the companies have been exceedingly careful in drilling near the water table, which is around 3,310-20 feet, in order to prevent drilling into the water and hurting the wells.

Bowie County Test

Lee Timberlake and others have contracted to drill a test, to spud by December 15, on a block near New Boston in Bowie County. This will be the third test to be drilled by these men in this area.

Pure Oil Co.'s No. 1 Davis, the deep test north of production in the Van Field, Van Zandt County, cored around 15 feet of white sand in the Paluxy series, and on a drill stem test made some salt water and mud, showing no oil. The drill stem test was made at 4,824 feet. It is now drilling ahead.

Anderson's No. 1 Bradford, Juan Ximines Survey, pumping (no gauge). Ball Oil Corp.'s No. 1 Bradford, Juan Ximines Survey, 125 bbls. per hour pumping. Big Indian Oil Co.'s No. 1 Deason, M. J. Pru Survey, pumps 125 bbls. in 12 hours, 2-inch tubing. Consolidated Oil Co.'s (Hamilton) No. 1 Camp, Juan Ximines Survey, pumping 125 bbls. in 15 hours. Consolidated Oil Co.'s No. 2 Camp, Juan Ximines Survey, pumping 125 bbls. in 15 hours. Same company's No. 3 Camp, Juan Ximines Survey, pumping 125 bbls. in 15 hours. Same company's No. 4 Camp, Juan Ximines, pumping 125 bbls. in 15 hours. Same company's No. 1-B Camp, Juan Ximines Survey, pumping 125 bbls. in 15 hours. Same company's No. 1 Jobe, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 2 Jobe, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 3 Jobe, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 4 Jobe, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 5 Jobe, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 6 Jobe, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 7 Jobe, Juan Ximines Survey, pumping 125 bbls. per day. C. & P. Oil Co.'s No. 1 Mayfield-Alford, Juan Ximines Survey, pumping 125 bbls. in 15 hours. Same company's No. 2 Mayfield-Alford, Juan Ximines Survey, pumping 125 bbls. in 15 hours. Same company's No. 3 Mayfield-Alford, Juan Ximines Survey, pumping 125 bbls. in 15 hours. East Texas Refining Co.'s (Deep Rock) No. 1 Ashby, Juan Ximines Survey, pumping 125 bbls. per day. East Texas Refining Co.'s No. 2 Ashby, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 3 Ashby, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 4 Ashby, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 1 Mayfield-Alford, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 2 Mayfield-Alford, Juan Ximines Survey, pumping 125 bbls. per day. Same company's No. 3 Mayfield-Alford, Juan Ximines Survey, pumping 125 bbls. per day.

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WILL DEMONSTRATE PRESSURE VESSELS

Test pressure vessel with safety blowout head.

Black, Sivalls & Bryson, Inc., Bartlesville, Okla., announces it will make a demonstration of its Flexweld method of manufacturing pressure vessels, as well as the safety blow-out head used with them, all as shown in the accompanying cut, at its Tulsa branch, 430 South Rockford Street, at 1:30 p. m. Thursday, December 10. Everyone interested is invited to be present to witness this demonstration.

XUM

West Texas Tests Are Disappointing

Western Crane County Operation Fails to Pick Up Discovery Pay. Western Ward County Well Still Uncompleted. Deep Test in Irion

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Dec. 7.—In West Texas tests which were slated to create considerable excitement did not come up to expectations and only one location was staked, in Fisher County. Three tests were temporarily abandoned, two producers were completed and one other test was abandoned. One of the completions was in the Shirk extension of the old McCamey Pool in Upton County and the other producer was in the Grand Falls area of Ward County.

Shipley and others' No. 1 Monroe, the Delaware sand discovery in western Ward County, is still incomplete, the well now being swabbed, tubing not in the hole yet. Total depth is 4,666 feet. Five and three-sixteenths inch casing is to be run to the bottom of the hole after the well is entirely cleaned, and the hole may be deepened a few more feet before tubing is run.

Southwest Oil Production Co. and Penn Oil Co.'s No. 1 Tubb, western Crane County, is now drilling below 4,440 feet in hard lime without picking up the pay found in the discovery well of this area, Cranfill Brothers and Gulf Production Co.'s No. 1 Tubb in Section 8, Block 27, to the south. That well topped the pay at 4,295 feet, and was shot with 100 quarts from 4,319-4,279 feet, making an initial production of 107 bbls. per day. The Southwest-Penn test is in Section 3, Block B-27. It is now 2,117 feet in the lime which was topped at 2,323 feet, 1,900 feet below sea level, around 20 feet higher on top of the lime than the discovery well. It now appears as if the discovery was only a freak well, and that no pool of major importance is to be opened, although there is a chance for production in another test to the northeast. Dry holes have been drilled to the south of the discovery.

Deep Test in Irion County

Stanolind Oil & Gas Co. is replacing a 94-foot derrick on its No. 1 Williams in Section 1,196, T. C. Railway Survey, Irion County, and will erect a 122-foot derrick to use in drilling the test down by heavy rotary equipment brought from Oklahoma. Total depth is 6,795 feet. The Herndon Drilling Co. of Oklahoma City has the contract to drill the test to 7,200 feet in an effort to pick up the deep pay horizon found in the Big Lake Field, Reagan County, to the west. Four bailers of salt water per hour was struck at 6,795 feet, which is 4,251 feet below sea level.

This is the heaviest equipment ever used in drilling a wildcat in West Texas. It is also believed to be the first rotary rig used in drilling a wildcat in this district. This test is one of the most interesting in the district at the present time, and will be closely watched. Even though it may not make a producer it will furnish exceedingly valuable information for geological and paleontological departments, and may be of great value in future correlations in this area. It will be a key test in regard to its geological importance.

Completions in the Van Pool

Pure Oil Co.'s No. 3 H. C. Gilbert, initial production estimated 500 bbls. per day through eleven-sixteenths inch tubing choke, total depth 2,972 feet. Same company's No. 2 F. Blackstock, initial production 360 bbls. per day through eleven-sixteenths inch tubing choke, total depth 2,929 feet.

First Reports in Van Pool

Pure Oil Co.'s No. 3 B. E. Crim, 200 feet east of west line and 250 feet south of north line, John Walling Survey, location. Same company's No. 3 A. F. Magers, 250 feet west of east line and 200 feet north of south line of lease, Nacogdoches School Land Survey, location. Same company's No. 2 Mrs. C. White, 250 feet east of west line and 250 feet south of north line of lease, John Walling Survey, location. Same company's No. 3 A. W. Ellison, 200 feet south of north line and 225 feet west of east line of lease, James Rose Survey, location. Same company's No. 4 O. L. and L. L. Swain, 150 feet south of north line and 203 feet east of west line of lease, John Walling Survey, location.

PANHANDLE DISTRICT

All gas land and gas royalty owners in the Panhandle district have been called to attend a meeting to be held at the Amarillo Hotel on December 9 to discuss and protest the present gas payments which have recently been offered, but many of them not accepted, for natural gas produced on their lands in this district. Four propositions are to be considered at the meeting: The correct basis of settlement under royalty provisions that provide for payment based on market value or proceeds of sale at the well when the first actual sale is made in Illinois and other points of distribution; right to condemn private property for right of way; right to continue to cross public highways in the event present permits are canceled, and the right to continue to operate legally in face of denial that the company is either a utility or a common carrier.

There is much agitation in the district, and the meeting may be far-reaching, with the possibility that the attorney general's department will be asked to take a hand in settling the controversy and making a test case to settle the issue.

There were five completions in the Panhandle district this week, one in Carson, three in Gray and one in Hutchinson. There was only one new location staked for the week.

RANGER AND WICHITA FALLS

There were 10 locations staked in the Ranger and Wichita Falls district for the week, Young County having five, while Archer, Wichita and Wilbarger County each had one. Brown County was the only county in the former district given an addition of two locations.

A reduction in the allowable production for the Wichita Falls district was ordered in a new proration schedule issued December 1. Production will be held to 53,000 bbls. per day if possible, although at present 57,000 bbls. per day is allowed in order to take care of new flush production that may be developed.

The same old difficulty of rearranging connections so as to include all leases and give all wells connections continues in the district, due mainly to some of the refineries in the territory shutting down and not taking oil, making it necessary for some of the wells to obtain other outlets.

WEST TEXAS PRODUCTION
Week Ending December 5

County—	No. wells	Prod.
Crane	377	17,906
Crockett	51	1,122
Ector	78	6,419
Fisher	79	906
Garza	2	20
Howard-Glasscock	544	25,449
Irion	9	60
Jones	89	1,356
Loving	46	3,680
Mitchell	111	1,731
Pecos	551	66,779
Reagan	355	30,175
Runnels	5	58
Scurry	5	9
Upton	266	4,658
Taylor	263	59
Ward	79	3,872
Winkler	595	35,924
Total production this week		200,174
Total production last week		199,855
Increase		319

COMPLETIONS IN NORTH CENTRAL TEXAS

Archer County

Bridwell Oil Co.'s No. 4 Green, sand lime 1,125-38 feet, shot 60 quarts, initial production 35 bbls., total depth 1,141 feet. Burns & Long's No. 8 McCluer, dry and abandoned, total depth 1,335 feet. H. C. Deon's No. 1 Blewitt, tem-

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WILDCAT OPERATIONS IN WEST TEXAS

Week Ending December 7

BREWSTER COUNTY

Company, well, farm name, section and block—	Remarks:
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor. Sec. 45, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	S.D. 1,302 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

COCHRAN COUNTY

Penn Oil Co.'s No. 1 Myrick, C Labour No. 80 of League 129, Carson County School Lands	Drlg. 4,475 ft.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E Sec. 163, T.&N.O. Sur.	S.D.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor. G. Emmig Sur. 130, 6 miles W of Paint Rock	S.D. 1,850 ft.

CRANE COUNTY

Gulf Prod. Co.'s No. 8 McElroy, 2,310 ft. from N and E of Sec. 196, Blk. F, C.C.S.D.&R.G.N.G. Sur.	Rig.
Southwest Oil Prod. Co. (Cranfill Bros.) and Penn Oil Co.'s No. 1 J. B. Tubb, 330 ft. from N and E of SW cor. of S 80 acres of NW cor. Sec. 3, Blk. B-27, P.S.L. Sur.	Drlg. 4,373 ft.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and S.D

CULBERSON COUNTY

Kornrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land	S.D. 1,280 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW Sec. 46, Blk. M, E.L.&R.R. Sur.	To resume drilling.

ECTOR COUNTY

Weekly Oil Corp. et al's No. 1 Cowden, 1,980 ft. from N and W Sec. 33, Blk. 43, Twp. 2s, T.&P. Sur.	Drlg. 3,205 ft.
H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M. M.Br.&A. Sur.	S.D. 3,280 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247	Shut down 1,960 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E. Sec. 200, Blk. 1, B.B.&C. Sur.	Total depth 3,732 ft.; underreaming.

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WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending December 7

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
H. A. M. Oil Co.'s No. 2 Cooper, 330 ft. from S and E, Sec. 5, Blk. 9, I.&G.N. Sur.	Location.
Texhoma Natural Gas Co.'s No. 1 Burnett, C NE, Sec. 54, Blk. 4, I.&G.N. Sur.	Building rig.
Texhoma Nat. Gas Co.'s No. 1-T McCoy, 1,257 ft. N, 1,309 ft. E line, Sec. 41, Blk. 4	Drlg. 350 ft.
Texhoma Nat. Gas Co.'s No. 3 Schaffer, C NW, Sec. 63, Blk. 4, I.&G.N. Sur.	Drlg. 650 ft.
Texhoma Nat. Gas Co.'s No. 1 Urbanczyk, C NE, Sec. 4, Blk. 4, I.&G.N. Sur.	Drlg. 2,455 ft.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands	T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur.	S.D. 2,508 ft.
Downey et al's No. 1 Beasly, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur.	Rigged up.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e	Spudded.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S and 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur.	Spudding 75 ft.
Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur.	Spudded and S.D.
Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur.	S.D. 2,650 ft.
Dixon Creek Oil Co.'s No. 2 Horner, 330 ft. from N and E. of Sec. 139, Blk. 3, I.&G.N. Sur.	Drlg. 2,925 ft.
Parton Holt and Shell Pet. Corp.'s No. 1 Morse, 330 ft. S and E, Sec. 6, Blk. 26, H.&G.N. Sur.	Spraying 20 bbls. daily; T.D. 2,387 ft; cmtd. 6-in. csg. 2,347 ft.
Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W, cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur.	S.D. 3,010 ft.
Graham et al's No. 1 Webb, 330 ft. from N and E of E½ NE, Sec. 62, Blk. 25, H.&G.N. Sur.	Drlg. 1,005 ft.
Jewel Oil Co.'s No. 1 Meers, 330 ft. from S and W of NW SW, Sec. 106, Blk. 3, I.&G.N. Sur.	Drlg. 670 ft.
Magnolia Pet. Co.'s No. 1 Arnold, 330 ft. from S and E, Sec. 149, Blk. 3, I.&G.N. Sur.	Cellar.
Magnolia Pet. Co.'s No. 1 Heaston, NE cor. S½ NE, Sec. 164, Blk. 3, I.&G.N. Sur.	T.D. 3,225 ft; top pay 3,163 ft. swabbed 283 bbls. in 29 hrs.
Mid-Kansas O. & G. Co.'s No. 1 Carpenter, 330 ft. from S and 990 ft. from W, Sec. 37, Blk. 25, H.&G.N. Sur.	Drlg. 350 ft.

(Continued on Page 80)

ADD these 144 Oil and Gas Concerns

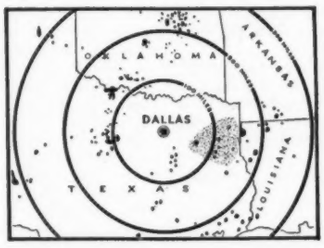
to the 143 Supply and Equipment concerns listed in the Nov. 19th issue...and you have a total of 287 oil, gas and allied concerns with branches or headquarters at . . . .

PRODUCERS, REFINERS AND MARKETERS

American Petroleum Company, Tower Petroleum Bldg.
American Refining Company, 2300 Wall St.
Anchor Oil Producing Company, Republic Bank Bldg.
Apex Petroleum Company, Kirby Bldg.
Atlantic Oil Producing Company, Magnolia Bldg.
Bayou State Refining Corp., 3609 Main St.
Beacon Oil Company, Magnolia Bldg.
Bell & Graddy, Inc., Burt Bldg.
Bluebonnet Oil Refining Company, Magnolia Bldg.
Blue Ribbon Oil Company, Central Bank Bldg.
Blue Ribbon Refining Company, Southland Life Bldg.
Buccaneer Oil Company, Allen Building.
Burford Oil Company, Tower Petroleum Bldg.
Byrd-Frost, Inc., Athletic Club Bldg.
The California Company, Tower Petroleum Bldg.
Centennial Oil & Gas Company, Kirby Bldg.
Central Crude Oil Purchasing Company, Tower Petroleum Bldg.
Central Refining Company, Tower Petroleum Bldg.
Champion Winkler Oil Corporation, Tower Petroleum Building.
Cities Service Oil Company, 3200 Hickory St.
Columbia Oil & Gas Company, Tower Petroleum Bldg.
Conservative Oil Company, Tower Petroleum Bldg.
Continental Oil Company, Eagle Ford Road.
Cranfill Bros. Oil Co., First National Bank Bldg.
Cranfill & Germany, Fidelity Union Bldg.
Dallas-East Texas Petroleum Corp., Republic Bank Building.
Dallas Petroleum Company, Tower Petroleum Bldg.
Dixie Service Company, Tower Petroleum Bldg.
Dumas Petroleum Company, Tower Petroleum Bldg.
East Texas Production Company, Tower Petroleum Building.
East Texas Refining Company, Tower Petroleum Bldg.
Eslick & Remy, Allen Bldg.
Everts Oil Corporation, Cotton Exchange Bldg.
Frank R. Foster, Inc., Tower Petroleum Bldg.
Godley Oil & Gas Company, First National Bank Building.
Golding-Murchison Oil Co., First National Bank Bldg.
Golding & Cochran, First National Bank Bldg.
Great Eastern Oil Corp., Construction Bldg.
Gulf Refining Company, Second Avenue.
Hamilton Petroleum Company, Republic Bank Bldg.
Humble Oil & Refining Company, 1918 South Wall Street.
Imperator Oil Corporation, Tower Petroleum Bldg.
Independent Crude Oil Trading Co., Fidelity Union Building.
Jenkins Oil Corporation, Republic Bank Bldg.
Joiner Oil Corporation, Marvin Bldg.
Korona Oil Company, Kirby Bldg.
Lewis Production Company, 4001 McFarlin Ave.
Lone Star Gasoline Company, Lone Star Gas Bldg.
Lucey Petroleum Company, Tower Petroleum Bldg.
McDonald & Campbell, First National Bank Bldg.
James D. McMahon, Inc., Tower Petroleum Bldg.
Magnolia Petroleum Company, Magnolia Bldg.
Marathon Oil Company, 601 Third Ave.
Marine Corporation, Central Bank Bldg.
J. F. Marion Oil Company, Magnolia Bldg.
Merit Oil Company, Magnolia Bldg.
Mid-American Petroleum Company, Marvin Bldg.
Monarch Oil & Refining Company, Allen Bldg.
Morris Oil Company, 2501 Wall St.
Moss & Urschel, First National Bank Bldg.
Murchison Oil Company, 703 Browder St.
Navarro Oil Operators, Republic Bank Bldg.
Nimrod Oil Company, Magnolia Bldg.
Ocean Oil & Transport Company, Tower Petroleum Building.
Oriental Oil Company, 1911½ Pacific Ave.
Pacific Oil & Royalties Company, Tower Petroleum Building.
Pacific Petroleum Company, Magnolia Bldg.
Peerless Refining Company, Magnolia Bldg.
Pelton Petroleum Company, Allen Bldg.
Penn Oil Company, Tower Petroleum Bldg.

Dallas

Southwestern Headquarters to American Business



Dallas is now located in the exact geographic center of the entire U. S. oil industry.

Not included in either the list in the November 13th issue or the list on this page are approximately 300 independent operators, drilling contractors and royalty companies with offices in Dallas.

During 1931, 156 oil companies, supply companies, drilling contractors, engineering concerns and others directly affiliated with the oil industry have located in Dallas.

Dallas has *every facility* for serving the oil industry. Complete data will be sent to responsible concerns, *free*. Write today!

INDUSTRIAL DALLAS, *Inc.*
611 Chamber of Commerce Bldg.,
DALLAS, TEXAS

Petroleum Development Corporation, Republic Bank Building.
Pilot Oil Company, Fidelity Union Bldg.
Primrose Petroleum Company, Central Bank Bldg.
Quaker State Oil Company, Magnolia Bldg.
Republic Production Company, First National Bank Building.
Ross Petroleum Company, Kirby Bldg.
Royal Petroleum Corporation, Tower Petroleum Bldg.
Russell Oil Company, Inc., 2425 Latimer St.
Shelby Oil & Gas Company, First National Bank Bldg.
Shell Petroleum Corporation, Athletic Club Bldg.
Simms Oil Company, Magnolia Bldg.
Sinclair Refining Company, 840 South Lamar St.
Sonneborn Bros., 2111 Taylor St.
Southwest Oil Production Company, First National Bank Bldg.
Specialty Oil Company, Magnolia Bldg.
Sun Oil Company, First National Bank Bldg.
Superior Oil Company of California, Tower Petroleum Building.
The Texas Company, 1000 Alma St.
Texas Eagle Refining Company, Eagle Ford Road.
Texas Pacific Coal & Oil Co., 2501 Harrison St.
Trico Oil Company, Magnolia Bldg.
Union Oil Company of Texas, First National Bank Building.
Vacuum Oil Company, Mercantile Bldg.
Valvoline Oil Company, 801 Collin St.
Winona Oil Company, Dallas Bank & Trust Bldg.
Woodburn Oil Corporation, Magnolia Bldg.
Worthen Petroleum Co., Southwestern Life Bldg.

PIPE LINE COMPANIES

Atlantic Pipe Line Company, Magnolia Bldg.
Independent Pipe Line Company, Fidelity Union Bldg.
Magnolia Pipe Line Company, Magnolia Bldg.
Pure Oil Pipe Line Company, Kirby Bldg.
Rusk County Pipe Line Company, Tower Petroleum Building.
Texas Pipe Line Company, West Dallas.
Tyler Pipe Line Company, 703 Browder St.
United Pipe Line Corporation, Old Waco Pike.
Weleetka Pipe Line Company, Allen Bldg.

NATURAL GAS PRODUCERS AND DISTRIBUTORS

Central & Southwest Utilities Co., Allen Bldg.
Communities Gas Service Corp., Republic Bank Bldg.
Consolidated Gas Utilities Co., Santa Fe Bldg.
County Gas Company, Lone Star Gas Bldg.
Dallas Gas Company, Dallas Gas Building.
Lone Star Gas Company, Lone Star Gas Bldg.
Municipal Gas Company, Lone Star Gas Bldg.
Northern Fuel Supply Co., Lone Star Gas Bldg.
Southern Union Gas Company, 701 Browder St.
Utilities Natural Gas Company, First National Bank Building.
United Gas Public Service Co., Duncanville Highway.

PIPE LINE CONTRACTORS

W. S. Bibb Company, Republic Bank Bldg.
A. F. Day Construction Company, 132 N. Lancaster Avenue.
Ford, Bacon & Davis, Inc., First National Bank Bldg.
Macpherson Construction Co., Magnolia Bldg.
Oklahoma Contracting Corporation, Tower Petroleum Building.
Smith Bros., Santa Fe Bldg.
Weldaline Company, Tower Petroleum Bldg.

ASSOCIATIONS

American Gas Association, Natural Gas Division, Dallas Gas Bldg.
American Petroleum Institute, Production Division, Kirby Bldg.
Mid-Continent Oil & Gas Association, Kirby Bldg.

MAP COMPANIES

Fairchild Aerial Surveys, Inc., 2102 N. Harwood St.
Lee Map Company, First National Bank Bldg.
M. H. West Company, 209 S. Akard St.

ENGINEERING COMPANIES

P. McDonald Biddison, Tower Petroleum Bldg.
Geophysical Service, Inc., Republic Bank Bldg.
Arthur G. McKee & Company, Athletic Club Bldg.
Northern Gas Engineering Co., Lone Star Gas Bldg.
Oakite Products, Inc., Second Unit, Santa Fe Bldg.
Petroleum Engineering, Inc., Athletic Club Bldg.
Petroleum Engineering Service, Inc., Tower Petroleum Building.
J. F. Pritchard & Company, Athletic Club Bldg.
Texas Creosoting Co., Allen Bldg.
Walter Reid, Athletic Club Bldg.
Sperry-Sun Well Surveying Co., First National Bank Building.

TANK CAR COMPANIES

General American Tank Car Corporation, Magnolia Building.
North American Car Corporation, Republic Bank Building.
Pennsylvania-Conley Tank Car Company, Magnolia Building.

Fuel Consumption By Refineries Rises

Survey Reveals Steady Decline in Heat Requirements for Five Years Beginning With 1925, Followed by Upturn in 1930

By G. R. Hopkins
Economic Analyst, U. S. Bureau of Mines*

One of the largest items in the expense of operating a refinery is the cost of the fuel used in distillation and for miscellaneous purposes. On a B.t.u. basis, the average refinery consumes approximately one-tenth as much fuel as it produces. Theoretically, the fuel consumption at refineries should be much smaller than this, but furnaces cannot be designed to be 100 per cent efficient and, in addition, a large part of the waste heat is low-temperature heat which would not pay for the expense of recovering it.

Annual surveys of fuel consumption at refineries have been made by the U. S. Bureau of Mines, beginning with 1925. During the five-year period, 1925-1929, the refineries made steady progress in fuel economy. This is evidenced by the computed figures of heat requirement per barrel of crude oil refined, which show a decline from 829,000 B.t.u. in 1925 to 639,000 B.t.u. in 1929 (see Figure 1). In 1930, however, the trend in fuel economy was reversed and the quantity of heat utilized in refining the average barrel of crude oil rose to 672,000 B.t.u. There were undoubtedly a number of reasons for the apparent decrease in fuel economy at refineries in 1930, chief of which were the tendency to carry the distillation farther instead of merely topping the crude and a gain in the consumption of waste oils, such as acid sludge, which in actual practice yield less heat per unit consumed than has been theoretically assigned to oil.

The consumption of natural gas as fuel at refineries has declined since 1927, but this has been more than compensated for by a rapid increase in the use of refinery or still gas. The total consumption of oil as refinery fuel in 1930 was not much below the 1925 total, but the consumption of coal has declined rapidly. (See Figure 2).

The use of natural gas as fuel at refineries appears likely to decline steadily in the future. This is because it is an "outside" fuel; that is, it is usually purchased from a utility company. On the other hand, the refineries are learning to utilize more and more of their products, and as fuel oil from cracking stills, coke, sludge, and refinery gas, for which there is little demand or which can be sold at very low prices. The refining areas of the country vary greatly in average fuel requirements, depending largely upon the refining methods employed.

Refinery Fuels

Oil—Oil has been the chief fuel used at petroleum refineries since these surveys were begun. In the early days of the industry, when the Appalachian district was the center of refining, coal was the leading fuel. The trend to oil as fuel became particularly evident soon after 1920, when prices of fuel oil fell rapily. Another development that spurred the use of oil as fuel was the growth in use of the cracking process. The consumption of oil as refinery fuel in 1930 amounted to 46,956,000 bbls., a decline from the previous year of 9 per cent. The percentage of the total heat utilized that was supplied by oil declined from 49.0 per cent in 1929 to 45.2 per cent in 1930. The percentage supplied by gas, both natural and refinery, increased from 39.2 per cent in 1929 to 43.9 per cent in 1930.

Acid Sludge—Acid sludge is a material resulting from the use of sulphuric acid in treating refined products. It is rarely produced in quantity at skimming plants but is usually associated with the manufacture of lubricating oils. Until recent years, acid sludge was generally regarded as a nuisance. The first refinement introduced in the handling of acid sludge was the recovery of the acid. The latest step was the development of suitable equipment to burn the acid before or after acid treatment and with or without fuel oil added as a flux.

Coal—The consumption of coal as refinery fuel showed a further decline in 1930, when a total of 1,949,000 short tons were burned. This represents a decrease of 351,000 short tons, or 15 per cent, from the previous year, and is equivalent to less than one-third of the consumption of coal in 1925. The only area in which coal ranks as an important refinery fuel is the Appalachian district. In 1930 the Appalachian refiners secured a theoretical yield of 22,958 billions B.t.u. from the coal consumed, which was equivalent to more than half the heat generated in that district. The reasons for the dependence of the Appalachian refineries upon coal as fuel in preference to oil or gas are that there is a cheap supply of coal available, that in most places natural gas is too high in price, and that the type of crude and the methods used do not yield a surplus of residual fuel oil.

Natural Gas—Although the consumption of natural gas as refinery fuel has declined for the last few years, it still ranks as a very important source of heat at many refineries and as the only source at some plants. The total consumption in 1930 amounted to 98,842,000,000 cubic feet, a decline from the previous year of 4,887,000,000 cubic feet or 5 per cent. Practically every district used less natural gas as refinery fuel in 1930, the most notable exception being California where the completion of pipe lines to the San Francisco area resulted in a material increase in its use at the expense of fuel oil.

Refinery Gas—Refinery gas, or still gas as it is often called, consists of gas produced from straight distillation, from cracking, and from the evaporation of oil in storage. Of these the gas from cracking stills constitutes the most important class. Not all refineries have adequate facilities to recover refinery gas, but it is safe to say that nearly all of the large plants have such equipment. As a general rule, the small skimming plant can not afford to install a vapor recovery system for the small amount of gas produced. The total utilization of refinery gases in 1930 totaled 121,321,000,000 cubic feet, as compared with 98,727,000,000 cubic feet in 1929 and with only 35,041,000,000 cubic feet in 1925. The increase of 1930 over 1929 amounted to 23 per cent, which compares favorably with the gain of 1929 over 1928. With two minor exceptions, all the refining districts reported an increase in the utilization of refinery gas in 1930. The Texas Gulf Coast area again led in total quantity of refinery gas, but the Indiana-Illinois-Kentucky district displaced the East Coast area in second place. The leading districts in the utilization of refinery gas as fuel were also the leaders in the output of cracked gasoline, which illustrates the close relationship between cracking and the production of refinery gas. Because of the relatively high temperatures employed, all cracking processes yield large amounts of gas. Vapor-phase cracking units, largely because they operate at low pressure, are the largest producers of refinery gas and there was undoubtedly some connection between the increase in production of gasoline by vapor-phase processes in 1930 and the gain in quantity of refinery gas utilized in that year.

Use of Coke Impeded

Petroleum Coke—Refiners have always known that petroleum coke was a superior material from the standpoint of heat units and ash content, but its use as fuel at refineries has been retarded because of the lack of suitable firing equipment. However, indications point to progress in the design of equipment to pulverize and feed coke to boilers and stills during 1930. The consumption of coke as refinery fuel rose from 488,000 short tons in 1929 to 580,000 short tons in 1930, a gain of 19 per cent. On the other hand, the total production of coke in 1930 was only 6 per cent above 1929.

Electricity—The refining industry is one of the leading consumers of electrical power. A large part of the electricity used at refineries is generated at the plants, but large amounts are purchased from utility companies. The electricity produced at the plant is usually generated by steam-turbine units as one step in the process of reducing live steam to a workable pressure. The only data on electrical power obtained in this survey covered amounts purchased. The reports received showed that the refiners purchased 826,640,000 kilowatt hours of electricity in 1930 as compared with 573,463,000 kilowatt hours in 1929, or an increase of 44 per cent.

Consumption by Refinery Districts

East Coast—Although crude runs to stills at refineries on the Atlantic seaboard in 1930 was practically the same as in 1929, the total heat units utilized showed a decline. The use of oil for fuel in the East Coast district dropped from 15,721,000 bbls. in 1929 to 14,815,000 bbls. in 1930. The use of coal as refinery fuel continued to decline and amounted to 269,000 short tons in 1930 as compared with 292,000 short tons in 1929.

Appalachian District—The refiners in the Appalachian district, which includes principally the small refineries in western Pennsylvania, required a total of 40,686 billion B.t.u. in the refining of 32,056,000 bbls. of crude oil in 1930. The fuel used comprised 1,332,000 bbls. of oil, 883,000 short tons of coal, 2,986,000,000 cubic feet of natural gas, 4,222,000,000 cubic feet of refinery gas, and 23,000 tons of petroleum coke. In comparison with 1929 these data indicate increases in the consumption of oil, natural gas, refinery gas, and coke, but a decline in the use of coal, the principal fuel. The average heat requirement for the Appalachian refineries is the highest of any district in the country. This results from a number of causes, chief of which are that coal, the chief fuel, has a comparatively low heat recovery, that many of the plants were built before the days of pipe stills and heat exchangers, and that the refiners specialize in lubricating oils, which require large amounts of steam.

Indiana, Illinois, Kentucky, etc.—The

(Continued on Page 79)

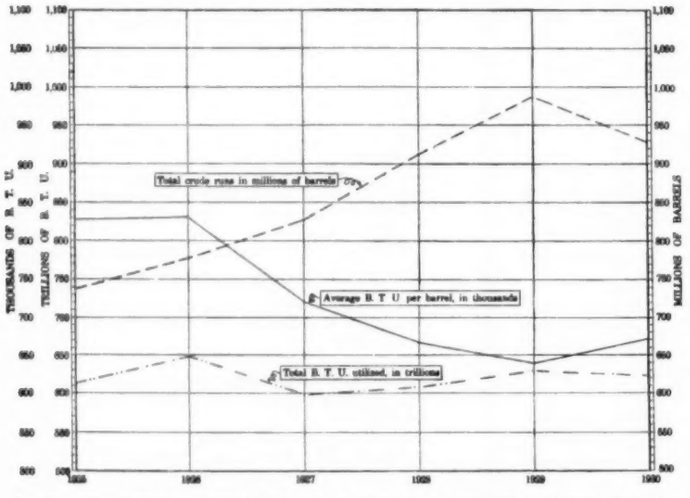


Figure 1—Total crude run, total B.t.u. used, average B.t.u. consumed per barrel, 1925-1930.

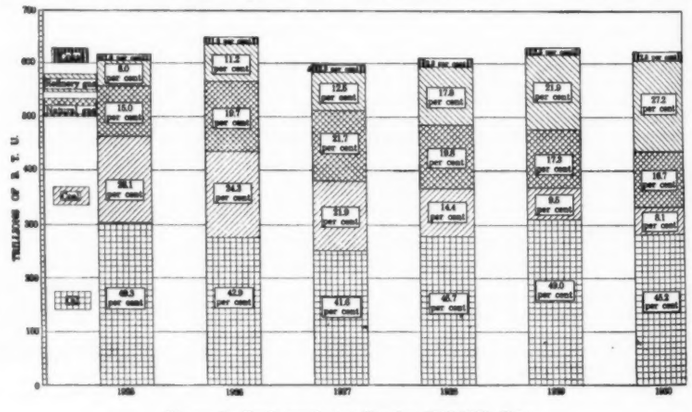
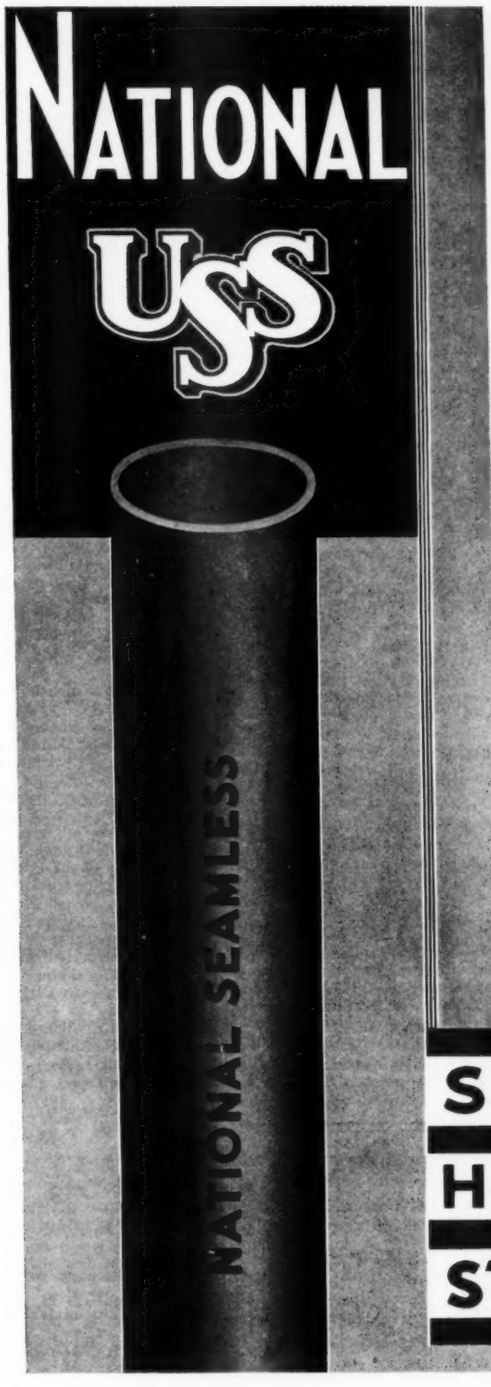


Figure 2—Fuels used at refineries 1925-1930, B.t.u.

*Reprinted from U. S. Bureau of Mines Report of Investigations 3.145.



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The Lorain Steel Company
Tennessee Coal, Iron & R. R. Company
Universal Atlas Cement Company

Pacific Coast Distributors—Columbia Steel Company, Russ Building, San Francisco, Calif. *Export Distributors*—United States Steel Products Company, 30 Church Street, New York, N. Y.

Finish Potential Tests in Oklahoma

Production Is Expected to Decline, Although It Has Been Very Little Above the Allowable of 545,000 Bbls.

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

With the continuation of potential tests in some of the larger pools, Oklahoma continues to produce in excess of its estimated daily allowable production. The production for the week ending December 5, is placed at 554,600 bbls. a day, more than 9,000 bbls. over the 545,000-bbl. figure set by the three states agreement. It is believed that production will show a substantial decline during the present week, as the potentials in both the Greater Seminole and in the Oklahoma City Fields have been practically completed.

Wildcatting in Oklahoma in general may be delayed until next spring, but during the last month several major oil companies have contributed funds to unitized blocks on which semiwildcat and wildcat tests are starting and some wells are being drilled in proven areas.

Some express the opinion that when the wildcat play develops more attention will be given the shallow areas in the State, since the losses, from shallow dry hole drilling will be considerably less, and in the event of new pools, the operating costs would be relatively low, permitting a quicker return on the initial costs, and greater profits.

The future development of the Oklahoma City Field is expected to be on the extreme west and southwest sides as the result of recent completions and the small decline in the potential production of the wells. It is believed that a strip approximately half a mile wide connects with the production in the south end of the field, extending in a northwesterly-southeasterly direction. The most recent completion on the southwest edge of the field is Kessler Oil & Gas Co.'s No. 1 Canning, SE cor., Section 22-11-3w, estimated to be a 25,000-bbl. producer. A potential test made during the week shows the well made 6,075 bbls. in 4 hours and 52 minutes. Indian Territory Illuminating Oil Co.'s No. 1 Little, NE cor., Section 27-11-3w, made 5,050 bbls. in four hours from the Wilcox sand at 6,477 6,562 feet. These two wells extend the producing area to the southwest and add to the possibilities of the area.

Gusher production has been found in Section 10-11-3w, and in Section 15-11-3w, directly north of Section 22-11-3w, and some express the opinion that large production will be found on the west side of the field. North of Section 10-11-3w, is the city line and before this territory can be tested to the fullest extent the U-7 zone, inside the city limits, will have to be extended.

The development of the territory is expected to be slow because of the rigid proration and military rule which is effective in the field. The low daily allowable the field is permitted to produce, together with the low prices paid for crude oil are contributing causes. Should the field be allowed a larger daily allowable flow, a drilling campaign could be expected to develop.

Statistics on Oklahoma City

The potential production of the Oklahoma City Field is rated at 9,029,000 bbls. in 24 hours from 692 wells, a decline of 14.6 per cent from the previous gauge. The adjusted potential of 3,013,325 bbls. is the Oklahoma Corporation Commission potential, which is based on one-third of the rated potential. There were 851 wells in the Oklahoma City Field on the week ending December 5, of which 40 are gas wells, and 35 wells were not eligible for potential at this time. It is estimated by some that the total estimated potential of the field will reach a rated figure of approximately 10,000,000 bbls. a day when all the wells complete their potential gauges. Comparative figures on 587 wells show the field has declined 14.6 per cent since the April potentials of this year. The old adjusted potentials on the same number of wells total 2,646,988 bbls. and the new potential gauge totals 2,260,133 bbls., a decline of 386,855 bbls.

The Arbuckle lime area shows the largest falling off, followed by the Wilcox sand zone with the lower Simpson showing the least decline.

During the week Lieut. Col. Charles H. West, former attorney general, was assigned as second in command in charge of field headquarters on the Theimer lease in the north end of the Oklahoma City Field.

The field force of militia in charge of martial law in the Oklahoma City Field was reduced to a total of six officers, there being in addition to Colonel West, one major, two captains and two lieutenants, all under the command of Lieut. Col. Cicero I. Murray, who has been in charge since August 5.

Col. Cicero I. Murray said during the week that he could see no immediate removal of military rule from the flush fields in the State for some time to come.

The total production of the Oklahoma City Field for the month of November was 5,358,501 bbls., an average of 178,616 bbls. a day. The daily allowable is 180,000 bbls. a day under the present proration order. The estimated pipe line shipments for the month were 5,244,711 bbls., an average of 174,823 bbls. a day. The difference in the production and the pipe line shipments were 113,990 bbls., which is now held in lease storage.

Many Sands in Deepest Well

The deepest test in the United States is being plugged back to upper horizons. The well is Mid-Kansas Oil & Gas Co. and Ramsey Petroleum Corp.'s No. 6 Preston-Culp, NW cor. NE, Section 6-5-9w, in the Cement Pool, in Caddo County, the total depth of which was 10,079½ feet. When it was bailed down a showing of gas was found. The formation at the bottom of the hole was in the Pennsylvanian, and it was believed to have been near the top of the Dutcher series. The drill stem was twisted off at the bottom of the hole which was recovered before the hole was plugged back. The 6-inch casing was landed at 9,777 feet, after being floated into the hole. Cement (1,875 sacks, or two car loads), was landed between the 6-inch and 9-inch casing. The 9-inch was landed at 5,525 feet.

The hole was plugged back and shot at 8,770-8,870 feet, with 120 quarts of nitroglycerin and only a showing of gas was found. It was again plugged back to 8,333-8,410 feet, and shot with 110 quarts and only a showing of gas was found. Both of these shots were placed in lime. It was again plugged back to 7,300-30 feet and given a small shot.

Unless commercial production is found in a deeper formation, the company plans to make a test at 6,667-6,779 feet, in gray sand where a showing of oil and gas was found. Another showing of oil was found in gray sand at 6,040-80 feet both of which will be given a shot and the result checked.

The wildcat test in southern Pottawatomie County is believed to be running favorably on structure and is logging higher than the geologists expected. The test is the Mid-Continent Petroleum Corp.'s No. 1 Farmer, SE cor. SW NW, Section 2-6-4, near Sacred Heart. It was shut down at 3,677 feet repairing a boiler. It cored a showing of oil at 3,260-65 feet and found the top of the Mayes at 3,640 feet. Geologists expected the Mayes lime at 3,660 feet, and the fact that the formation was found higher is believed to be a promising indication.

Future Exploratory Areas

Seismograph parties are at work in Lincoln County. One company is reported to be working a crew in Townships 13-3 and 13-4, which is south of the West Chandler Field which has some 5,000-bbl. wells producing from the Wilcox sand. Several companies have done considerable geophysical work in Lincoln County, mostly in the area north and west of the townsite of Chandler.

In Logan County, Continental Oil Co. has surrendered leases on school lands in NE and SW quarters of Section 16-16-4w, and NW, Section 36-16-4w. George Deck has leased NE of Section 25-15-1 and E half SW, Section 24-15-1.

Kay County is being worked with a seismograph between the area south of Ponca City and Tonkawa. The party was last reported working in Township 25-1.

In the southern part of the State in Carter County all companies are reported to be using geological parties in Townships 2s-3w and 2s-4w, along the Stephens County line, and it may lead to a wildcat test in the area. The work is being done in the vicinity of the old Milroy shallow field. The Carter Oil Co. recently assembled a block in Township 3s-2w.

Shallow Production in Seminole

The shallow test recently completed by the Stanolind Oil & Gas Co. by plugging back an old Wilcox sand producer indicates that the Greater Seminole area will continue to produce oil after the Wilcox sand is exhausted. The well was the company's No. 2 Jones, SW cor. SE NW, Section 20-9-6, in the old Seminole Pool, averaging 80 bbls. an hour for the first 13 hours and 1,080 bbls. the first 24 hours. The well was also making 6,000,000 feet of gas a day. This well is expected to result in others in the vicinity being plugged back and the shallow horizons tested.

Greater Seminole Potentials

The 10-day gauging of all the wells in the Greater Seminole area was completed during the week and the total was 313,787 bbls. per day, including 5,000 bbls. a day allowed to the Class "A" wells. The estimate of the area under the 3 per cent decline curve was 305,000 bbls. a day made at the first of November. The final report made by Umpire Ray M. Collins shows the Greater Seminole area to have a potential of 308,787 bbls. All the gauging is completed with the exception of a few leases in the Allen Pool, which are being rechecked. The allowable for the area is expected to be 155,000 bbls. a day. While taking the potential gauge of wells in the area it was found that 2,365 wells were on the pump, 101 wells on air-gas lift, 79 wells flowing naturally, 54 wells swabbing, giving the area a total of 2,599 wells.

The potential gauges of the different pools were as follows:

Pool—	New potential (bbls.)
Allen	18,894
West Asher	8,350
Bowlegs	26,990
Carr City	38,315
Old Earlsboro	25,258
East Earlsboro	22,556
East Earlsboro extension	522
Earlsboro Townsite	3,701
South Earlsboro	11,199
Konawa	13,592
Little River	10,110
East Little River	4,322
Maud	2,515
Mission	16,217
Sasakwa	2,722
Searight	6,761
Seminole City	24,167
West Seminole	16,783
St. Louis	35,428
Total	313,787

The Greater Seminole district has been getting an increased drilling campaign during the last few weeks, especially in the Carr City area of Pottawatomie County, where seven new operations are now under way. Leasing has also increased in some parts of Seminole and Pottawatomie Counties.

Some of the companies are plugging wells that have been exhausted and were making considerable water. The following wells were being abandoned, Magnolia Petroleum Co.'s No. 1 Harjo, NE cor., Section 14-7-8, at a total depth of 3,333 feet; same company's No. 2 Isa-

(Continued on Page 73)

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW, Sec. 12-27-11w	S.D. 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	S.D. 5,502 ft.

ATOKA COUNTY

Campbell's No. 1 Baird, NW NE SW Sec. 31-1-13	Rig.
Edgerton Edwards' No. 2 Rowland, SE NE NW Sec. 6-1-15	Rig.

BECKHAM COUNTY

Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	T.D. 2,344 ft; plugged back to 1,890-1,900 ft; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w	Waiting on cmt. to set 430 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-2-22w	S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	S.D. 3,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	S.D. 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	S.D. 1,115 ft.

CHEROKEE COUNTY

La Fiere et al's No. 1 Woods, C SE SE Sec. 27-17-21	S.D. 1,196 ft.

COAL COUNTY

Radial Oil Co.'s No. 1 McGraw, NE NW Sec. 2-1s-8	S.D. 1,165 ft.
McCraw Oil Co.'s No. 1 Ward, NE SE Sec. 35-1-8	Drlg. plug; showing 2,000,000 ft. gas 1,765-1,846 ft; mudded off gas; S.D.; rig moved.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	S.D. 760 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	S.D. 1,450 ft.

LE FLORE COUNTY

H. E. Dowd et al's No. 1 Unknown, SE NE Sec. 17-3-32	Abnd. 1,112 ft.

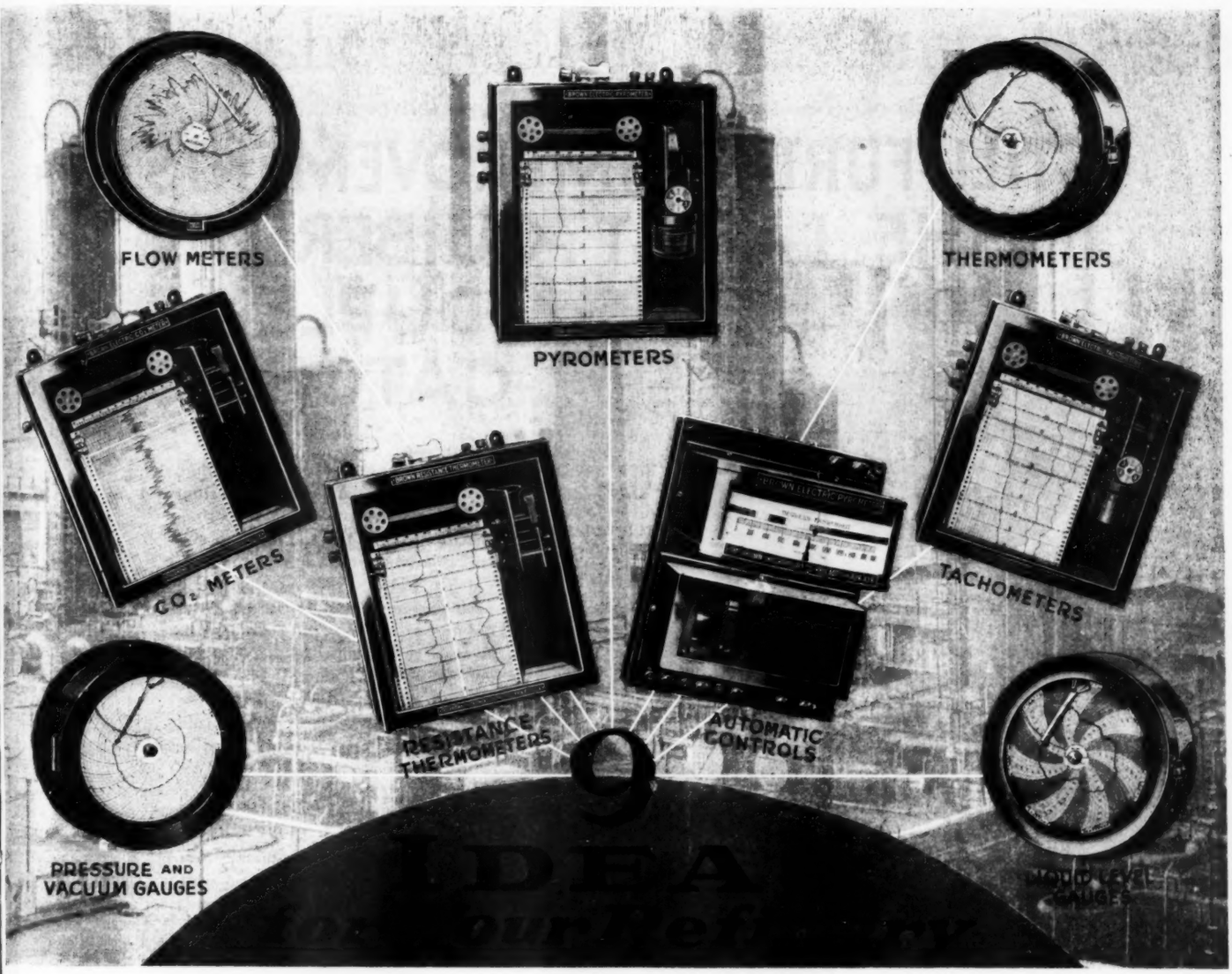
GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	S.D. 5,850 ft.

GARVIN COUNTY

Malarnee et al's No. 1 Phillips, NE SW SE Sec. 24-2-2w	S.D. 4,830 ft.

(Continued on Page 101)



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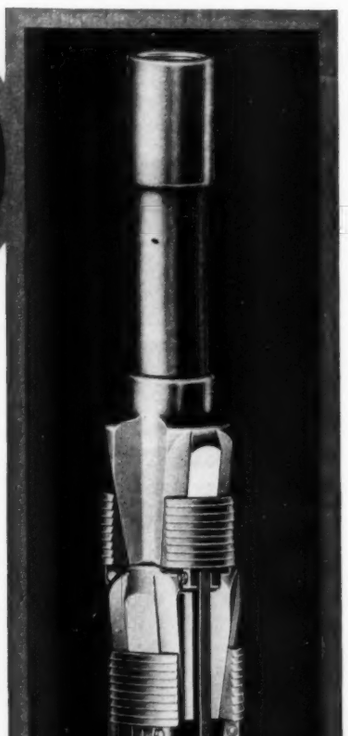

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BETTER BE SAFE THAN SORRY

New Gusher Well in Ritz-Canton Area

Rosenthal, Springer and Others Estimate It Good for 300 Bbls. an Hour. Hearing on Well Spacing

By W. A. Spinney
Staff Correspondent, Kansas Fields

Another gusher well was found in the Ritz-Canton Pool in McPherson County, Kansas, estimated at 300 bbls. an hour from chat at 2,930-62 feet. The well is Rosenthal, Springer and others' No. 1 Dielman, NE cor. SE SW, Section 35-19-2w, on the extreme southwest side of the pool. Tankage is being erected and a pipe line connection is under construction. It is located about a half mile west of George Dickey's 6,700-bbl. well.

The State's daily average production for the week ending December 5 is estimated at 104,800 bbls. a day, compared to 104,785 bbls. the previous week.

Viola lime production was extended more than a mile north on the west side of the Ritz-Canton Pool, McPherson County, by The Texas Company and Carey's No. 1 Holt, C NW SE, Section 13-19-2w. It was an old chat producing well drilled deeper to the Viola lime at 3,400-09 feet. The hole filled 3,000 feet with oil and on a swabbing test made 50 bbls. of oil the first hour and 60 bbls. the second hour, and the oil could not be lowered more than 1,400 feet. The well indicates that Viola lime may be found productive in the Decker gas area, which is located on the northwest side of the Ritz-Canton Pool. The new well is located on the east side of the gas producing area in the Decker gas pool. The well also serves as a connecting link between the two areas. It is believed this important extension well will result in additional tests to the Viola lime in the vicinity.

Another well in the Ritz-Canton Pool extended production a mile north and east on the extreme east side of the field. It was standing full of oil. The well is the Darby Petroleum Corp.'s No. 4 Kaegi, NE cor. SE NE, Section 20-19-1w. The crew was landing the 5-inch casing on top of the Viola lime at 3,371 feet. The oil rose to the top of the hole in 24 hours.

One of the new Viola lime wells was given a shot and was swabbing 50 bbls. of oil an hour. This is Lario Oil & Gas oC.'s No. 1 Grattan, NE cor. SW, Section 24-19-1w, which was given a 20-quart shot in the Viola at 3,391-99 feet.

A new location was staked in the territory southeast of the townsite of Canton and east of production in the Ritz-Canton Pool in wildcat territory. It is Shell Petroleum Corp.'s No. 1 Johnson, SE cor. SW SW, Section 35-19-1w, a mile north of another test which found a 5-bbl. showing of oil in the chat and a hole full of water in the Viola lime.

Keys and others' No. 1 Webster, on Lot 16, Block 2, Canton Townsite, in Section 21-19-1w, is a new location. It was the third operation to be started on the townsite of Canton.

Eastborough Activity

The Eastborough Pool in Sedgwick County continues to be one of the active areas in the State. Two deep wells were put to pumping during the week and another was making a production test. In the north end of the field, National Refining Co.'s No. 1 Murdock, SW cor. SE SE, Section 18-27-2, was rigging up preparing to drill deeper to the Viola lime. It is a chat well and has been producing for more than a year.

Fisher & Lauck's No. 9 Trustee, SE cor. NW SE, Section 19-27-2, an inside well, swabbed 25 bbls. of oil an hour from the Viola lime horizon at 3,267-69 feet. It was put on the pump during the week.

E. B. Shawver and others' No. 1 Soukup, near the NE cor. NW NE, Section 19-27-2, landed 3-inch tubing and started pumping during the week. It was estimated to be a 300-bbl. well.

Fisher & Lauck's No. 6 Trustee, near the NW cor. NE SE, Section 19-27-2, was drilling into the Viola formation and oil rose 300 feet in the hole.

Commission Will Hear Arguments

The Kansas Public Service Commission will hold a meeting at Lyons on December 10 and 11 relative to the limiting of drilling tests in Barton, Rice, Ellsworth and Stafford Counties, to one test on each 40 acres, instead of the usual practice of one on each 10 acres. It will find the landowners of the territory well informed in regard to the oil situation.

The four counties included in the discussion are the most active from a leasing standpoint in the State. The most recent leasing activity is due to the good showing in Hilligoss and others' No. 1 Isern, Section 12-20-11w, Barton County. All the available acreage in the area to the west as far as the Skelton Oil Co.'s No. 1 Ott, in Section 16-19-14w, has been leased by various companies. This lease play covers an area 20 miles long and 10 miles wide.

While most of the operators in the Ellsworth arch area will support the petition to the Public Service Commission for a permanent order that will require future drilling in the big field be confined to one well to 40 acres, there will be objection to such an order. The Derby Oil Co. is known to be against it and the farmers and royalty owners will have to be considered and some of these do not look with favor on the plan, although the object of it is to develop the siliceous lime area in a scientific way for the benefit of all concerned.

May Be State's Deepest Test

A wildcat test in Finney County in the western part of the State was proceeding after cementing the casing. The test, National Refining Co.'s No. 1 Finney, in Section 13-24-30w, has cemented 13-inch casing at 2,075 feet, and was drilling out the cement plug. The crew landed the longest string of 13-inch casing ever attempted in the State and many express the opinion it may be drilled as the deepest test in Kansas. It is believed the well could be drilled to the 8,000-foot level with good luck. The State's deepest test to date is the Watchorn Oil & Gas Co.'s in Clark County, which was drilled to a total depth of 6,906 feet.

Operators in the Hugoton gas field in the southwestern part of the State have completed 148 gas wells with a total open flow of 950,000,000 feet of gas daily. The average potential volume of gas per well in the field is 6,300,000 feet a day with a rock pressure of 429 pounds. To the north of the main part of the field in Haskell County, a wildcat recently completed shows a rock pressure of 442 pounds.

Of the total number of gas wells completed in the field 18 are owned by independent operators and 130 by major oil companies. Interstate pipe line systems are either completed or are nearing completion as units designed to provide an outlet for the huge gas reserves.

A new producing horizon has been found in the Goodrich Pool in Sedgwick County by the Continental Oil Co.'s No. 1 W. Casey, in Section 15-25-1. The test started flowing at the rate of 500 bbls. daily and was shut in after flowing for 3 hours. The company will erect tankage and make a production test of the well. The oil was found in the Kansas City lime at 2,614-60 feet. Work at the lease has been delayed on account of mud. In the same vicinity the company's No. 2 Goodrich in Section 16-25-1 was drilling at 3,320 feet and expecting the Viola lime in a few feet. The same company's No. 1 S. Black, in Section 16-25-1, was drilling at 2,775 feet but there was no oil found in the Kansas City lime in either of these tests.

Ritz-Canton Allowables

During the week the Kansas Public Service Commission announced that effective November 20 and until further notice the following chat wells in the Ritz-Canton-Decker Pool, in McPherson County, shall be produced under the following allowables:

Company and well—	Potential (bbls.)	Old allowable (bbls.)	New allowable (bbls.)
Dickey:			
No. 1 Decker	4,107	542	742
Olson:			
No. 3 Koehn	1,152	152	152
Shawver:			
No. 1 Decker	3,000	396	300
Stanolind:			
No. 4 Flook	6,413	847	743

The commission also announced that it had given permission to produce the following wells on the pump as follows:

Company and well—	Oil (bbls.)	Water (bbls.)	Old allowable (bbls.)	New allowable (bbls.)
Jones:				
No. 1 Flook	1,205	360	159	400
Stanolind:				
No. 3 Flook	429	348	57	142
Lario:				
No. 1 A. Ritz	189	700	50	100
No. 4 Miller	1,386	360	183	460

The commission announced that it has ordered that E. F. Jones and others' No. 1 Holmes, NE cor. SE NW Section 12-20-2w, be given an allowable of 150 bbls. a day. All other wells in the field will continue to be produced on the old basis, which is 13.2 per cent of the potential production. Under the new orders of the Public Service Commission some of the wells have been given an increase in their daily allowable production.

Schurr Pool Allowable

L. R. Pickrell, umpire and agent of the Public Service Commission, announces in compliance with the commission order that the operators in the Schurr Pool, near Raymond, in Rice County, may continue to produce 20 per cent of the potential production daily. The following is the daily allowable and the potential of each well in the field:

Company and well—	Potential (bbls.)	December allowable (bbls.)
Phillips, No. 1 Mezger	1,377	275
Phillips, No. 2 Mezger	1,247	249
Producers, No. 1 Thompson	689	138
Producers, No. 2 Thompson	981	196
Slick et al, No. 1 Mezger	886	177
Slick et al, No. 1 Schurr	742	148
Slick et al, No. 2 Schurr	1,062	212
Slick et al, No. 3 Schurr	1,540	308
Texas, No. 1 West	998	200
Vickers, No. 1 Binger	1,380	276
Vickers, No. 2 Binger	347	69
Vickers, No. 3 Binger	100	50
Total	11,349	2,298

Cowley County

McKnabb and others' No. 1 Mattison, Lot 5, Block 44, Musgrove Addition, city of Winfield, Section 22-32-4, is an old well rigging up to deepen from 2,922 feet. The rig is being built for No. 1 Hutto, center of Block 18, College View Addition, city of Winfield, Section 22-32-4. Sooby and others made location for No. 1 Moffett, CWL NW SW, Section 10-32-5. Roth & Faurot and Wakefield's No. 1, Lot 1, Block 41, Highland Park Addition, city of Winfield, Section 22-32-4, has been completed for 250 bbls. after being deepened to siliceous lime 3,286-96 feet.

Greenwood County

Theta Oil Co. made location for No. 10 Fankhouser, NW cor. SW, Section 23-22-12. Stanolind Oil & Gas Co.'s No. 7 Ellis, NW cor. SW NW, Section 27-23-11, had sand 1,863-1,943 feet, total depth 1,947 feet and made 40 bbls. after a shot of 220 quarts.

Harvey County

J. P. Flanagan's No. 1 Sheridan, C SW, Section 32-22-1e, is dry and abandoned at 4,120 feet.

McPherson County

Lario Oil Co. and Shell Petroleum Corp. made location for No. 1 Law, NE cor., Section 24-19-2w, Ritz Canton area. Vernon Oil & Gas Co. and others' No. 1 Thomas and Just, NE cor. SW, Section 26-19-2w, is moving in. Vernon Oil & Gas Co. and Shell Petroleum Corp. made location for No. 2 Drum, NW cor. NE, Section 35-19-2w. Wakefield and Shell Petroleum Corp.'s No. 1 Koehn, NE cor. NW, Section 36-19-2w, an old well being deepened, is now drilling at 3,094 feet. Shell Petroleum Corp.'s No. 1 Johnson, SE cor. SW SW, Section 35-19-

(Continued on Page 76)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location—	Remarks:
Syndicate Oil Co.'s No. 1 Boretz, NW SE SE, Sec. 3-18-12w	Drlg. 3,405 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE, Sec. 16-19-14w	Show oil 3,225-28 ft.; drlg. 3,264 ft.
McCool et al's No. 1 Tsern, NW SE NE, Sec. 12-20-11w	Show oil 3,313-29 ft.; pumped 500 bbls. per day.

CLAY COUNTY

Crystal Oil et al's No. 1 Tivier, SW cor., Sec. 19-8-2	S.D. 2,700 ft.

COWLEY COUNTY

Slocum et al's No. 1 Union National Bank, C SW SW, Sec. 16-35-4	T.D. 1,952 ft.; abnd.

DICKINSON COUNTY

Severs et al's No. 1 Lavengood, NE SW, Sec. 13-13-3	S.D. 4,546 ft.

ELLSWORTH COUNTY

Alyward et al's No. 1 Stratman, SE NW SE, Sec. 1-17-10w	Silicious 3,255-71 ft.; 117 bbls. 2 hrs.; shut in; estimated 2,003 bbls.; no pipe line connections.
Aladdin Pet.'s No. 1 Stoddenberg, C SW, Sec. 22-16-10w	Silicious lime 3,332-47 ft.; estimated 1,500 bbls. a day; shut in.

FINNEY COUNTY

National Ref. Co.'s No. 1 Wells, C SW, Sec. 13-23-30w	S.W. 2,037 ft.

HARVEY COUNTY

Liggett et al's No. 1 Davis, SW SE NE, Sec. 7-24-1	S.D. 1,505 ft.
J. P. Flannigan's No. 1 Sheridan, C SW, Sec. 32-22-1	Drlg. 4,092 ft.

KINGMAN COUNTY

Skelly Oil Co.'s No. 1 Miles, NE cor., Sec. 30-27-10w	1,635-40 ft. 2,000,000 ft. gas; at 2,005-20 ft., 6,000,000 ft. gas; at 1,133-42 ft., 2,000,000 ft. gas; showing oil 3,385 ft.; T.D. 3,441 ft.; S.D. estimated at 600 bbls. a day.
Panhandle Drlg. Co.'s No. 1 Wetherall, C SE NW SW, Sec. 20-28-10w	Rig.

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State Land, NW SE, Sec. 22-34-43w	T.D. 3,640 ft.; temp. abd.

(Continued on Page 98)

XUM

Smackover Test Now 7,255 feet Deep

Lion Oil Co.'s No. 9 Hayes Still in Rock Salt Which First Was Encountered at 5,974 Feet, With Several Oil Shows

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Dec. 7.—The Lion Oil Refining Co.'s No. 9-A G. P. Hayes, Section 4-16-15, Union County, Arkansas, will probably develop into one of the deepest wells yet drilled in this division of the Mid-Continent area. The test, which is located in the Smackover Field, has reached a total depth of 7,255 feet. The bit is still in rock salt which was first encountered at 5,974 feet, or a total of 1,261 feet of this solid salt formation. After drilling through red beds around 3,600 feet, a resume of drilling reports from the well reveals that 5 feet of sand showing oil was cored from 3,999 to 4,004 feet. Nine-inch casing was set at 3,998 feet, and a later core from 4,017-25 feet showed oil and salt water sand. The hole was deepened, with constant cores being taken, to 4,800 feet without developing anything of interest. Two feet of salt water sand with streaks of heavy dead oil was cored from 4,858-60 feet, and a test was made in hard gray lime at 5,236 feet with barren results. Another core of brown sandy lime from 5,633-39 feet showed dead oil and salt water. The next 300 feet to the top of the salt rock was hard gray lime with intermittent streaks of brown color.

It is understood that the local business interest of El Dorado and other oil operators of that district have co-operated with the Lion Oil Refining Co. in making the test. Reports from El Dorado during the past few days are to the effect that there has been some talk of abandoning the hole, but that James H. Dugan, one of the pioneers of the El Dorado Field, has started a subscription to raise $25,000, through local oil circles, to carry the test deeper.

Good Gas Wells

Two good gas wells, one in the Richland Field of North Louisiana, and the other in the Jackson Field of Mississippi, featured the week's completions. The Pelican Natural Gas Co.'s No. 1 Alexander, Section 4-16-6, on the east side of Boeuf River in Richland Parish, was completed with an initial flow of 33,000,000 feet of gas from 2,448 feet. This is the best well reported from this field in several months, only a few successful completions having been made, interspersed with several dry holes on the edge. In the Rankin County area of the Jackson Field, another big well was contributed by the most prolific producing spot in the field in Section 12-5n-1e. Muse & Muse completed their No. 1 Wright at a total depth of 2,381 feet with an initial flow of 53,400,000 feet of dry gas daily. The area in and immediately adjoining Section 12-5n-1e seems to be the "hot spot" of this gas field as it has furnished seven good wells during the last 60 days, only one of which had an initial flow of less than 35,000,000 feet. In the same section and county, Anderson and others' No. 1 Brown was bailed in as a good gasser during the past week from 2,400 feet, but the casing seat did not hold and will have to be recemented.

The Zwolle Field of Sabine Parish furnished the only oil well in the district, a small pumper in the proven area. The Ohio Oil Co.'s No. 12 Bowman-Hicks, Section 2-7-12, is pumping 20 bbls. daily from 2,271 feet. Several other wells in the field are testing or have set casing over the marl to drill in. Smith and others are swabbing their No. 1 Hale, Section 1-7-13, at 2,065 feet with a good show of oil, and in the same section the Coates Petroleum Co.'s No. 1 Hale is drilling plug at 2,040 feet. Both of these wells are in the western extension where the shallowest well in the field was brought in two weeks ago, and indications are that these tests will get the pay at least 200 feet high. In Section 35-8-12, W. F. Lacey is testing his No. 1 Holliday after drilling plug at 2,300 feet, and in the same section the Ohio Oil Co. has set 6⅝-inch casing at 2,360 feet in its No. 13 Bowman-Hicks. The Pelican Natural Gas Co. has two rigs running in the Zwolle Field, its No. 11 Louisiana Long Leaf Lumber Co., Section 10-7-11, is testing at 2,326 feet, and its No. 12 same fee owner in Section 4-7-11 is drilling around 1,500 feet. A. F. Tarver's No. 2 Cutrer, Section 12-7-11, has 1,000 feet of pipe line oil in the hole which refuses to flow from 2,550 feet and the well will be put on the pump.

Three Dry Holes

Three dry holes were reported for the livision, one of which was Lyons & Neely's No. 3 Byrd, in the discovery Section 1-7-11, of the southeastern extension of Zwolle. The total depth was 2,530 feet. A wildcat in Tensas Parish, L. A. Duvall's No. 1 Martin Jacobs, Section 1-13-11e, was dry and abandoned at 3,060 feet. The other failure was from the gas district of Crawford County in the northwestern part of Arkansas. The Ozark Natural Gas Co.'s No. 1 Hammonds, Section 29-10-29, encountered salt water at 2,560 feet and was abandoned.

A deep test that is being drilled in the Zwolle Chalk rock field will be followed closely by operators in that section. The Loring Oil Co.'s No. 18 Bowman-Hicks, Section 15-7-12, after failing to make a producer from the chalk rock around 2,400 feet, will be the test to determine whether or not there are other producing horizons in this area. The operators set 9⅝-inch casing at 3,950 feet and tested dry at 4,124 and 4,174 feet in lime and shale. There was no particular show of oil or gas at this depth, and the casing was set primarily to protect the hole for the deeper drilling. The Loring Oil Co., drilling the deep test, is the largest operating company in this area, having been formed by Benedum & Trees who purchased the large holdings of R. L. Gay and others, discoverers of the Zwolle Field.

Wildcats Around Zwolle

Other wildcats surrounding the Zwolle area are persistently trying to open up new producing extensions. J. J. Keen, trustee's No. 1 Belton, Section 31-9-13, a rank wildcat about 14 miles northwest of the fartherest western production in Zwolle townsite, has the best indications of opening a new producing area. The wildcat is standing with 400 feet of oil in the hole at a total depth of 2,039 feet. This well has checked high in comparison with Zwolle all along the log, and had 6 feet of likely looking sand which later tested dry from 1,599 to 1,605 feet. Eight-inch casing was set at 1,590 feet and a test at 1,713 feet developed a show of oil. It is not known at this writing whether the well will be deepened or an effort made to make a commercial well from the present depth. This area has been known to make fairly good wells from small showings after washing and swabbing and inserting tubing. Two wildcats are active northeast of the eastern extension of the field, but previous tests in that direction do not indicate any new extensions will result. The Gerhig Oil Co.'s No. 1 Skinner, Section 16-8-11, about 4 miles from nearest production, is drilling at 2,000 feet, and Hudson & Byrd's No. 1 Walden, Section 26-8-11, 2 miles north of the far eastern extension, have renewed operations after a prolonged shutdown and are drilling at 1,980 feet.

Arkansas Operations

In the northern part of the Urbana Field of Union County, Arkansas, Wilson & Chapman's No. 1 B. Hadley, Section 3-18-13, developed 800 feet of oil and 800 feet of salt water from 3,566 feet. The test is coring at 3,588 feet with the expectancy of encountering another producing stratum. In the Ouachita County area, the M. S. M. Oil Co.'s No. 4 Arnold, Section 23-16-15, is washing cement out of liner in preparation for testing. Reports from the well state that 78 feet of oil has been penetrated to a total depth of 2,096 feet.

Daily Average Runs

There was a net decrease of 515 bbls. in the daily average runs from the fields of North Louisiana and Arkansas during the week, the former declining 440 bbls. and the latter 75 bbls. Daily average runs from the several pools were:

North Louisiana

Caddo light	6,950
Caddo heavy	1,710
Cotton Valley	360
De Soto and Red River	2,135
Elm Grove	370
Haynesville	4,550
Holly	360
Homer	2,810
Pleasant Hill	370
Sarepta-Cartervill	900
Urania	3,690
Zwolle	5,545
Total North Louisiana	28,690
Total previous week	29,130
Decrease	440

Arkansas

Champagnolle	2,150
El Dorado	3,290
Lisbon	570
Nevada	1,700
Smackover light	3,180
Smackover heavy	25,580
Stephens	680
Urbana	800
Total Arkansas	37,450
Total previous week	37,525
Decrease	75
Total both states	66,140
Total previous week	66,655
Decrease	515

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

BIENVILLE PARISH

Company, farm and location—	Remarks:
Arcadia Drlg. Co.'s No. 1 Mason, Sec. 28-18-6, 1,200 ft. W, 190 ft. N, SE cor. NE NW	S.D. 2,251 ft.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	S.D. 2,890 ft.
Dr. W. N. Hankin's No. 1 Newell, 300 ft. S and W, NE cor., Sec. 12-19-11	Drlg. 1,710 ft.
D. L. Perkins' No. 1 Ardis & Co., 1,127 ft. N, 198 ft. E, SW cor., Sec. 13-15-11	S.D. 1,004 ft.

CADDO PARISH

D. C. R. Oil Co.'s No. 1 Oden account 5, Sec. 18-19-14, 430 ft. W, 280 ft. S, NE cor. SE	Drlg. chalk 1,450 ft.

CALDWELL COUNTY

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4	S.D. 110 ft.
Hudson et al's No. 1 Burton, Sec. 35-12-2e	S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6	T.A. 3,097 ft.

DE SOTO PARISH

E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15	S.D. 3,038 ft.
Rellitt Oil Co.'s No. 1 Ganno hrs., 300 ft. S and E, NW cor. NW NE, Sec. 12-11-16	S.D. 1,965 ft.
A. R. Smith's No. 1 Horn, Sec. 15-12-16, NE cor. Sec.	Rigging up.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13	S.D. 1,286 ft.

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 2 Sandidge, Sec. 11-20n-4e, 656 ft. S, 1,332 ft. W NE cor. NW	Began Nov. 29; set 12½-in. at 162 ft.

(Continued on Page 64)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, farm and location—	Remarks:
Shreveport Oil Corp.'s No. 2-B Muslow, 1,000 ft. S, 300 ft. E, NW cor., Sec. 32-21-15	S.D. 2,135 ft.
Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15	Tested S.W.; S.O. 2,275 ft.

CADDO PARISH—RHODESSA AREA

United Gas Public Service Co.'s No. 1 H. J. Bussa, Sec. 33-23-16, 990 ft. W and 660 ft. S of NE cor.	Drlg. lime 5,440 ft.

CLAIBORNE—SUGAR CREEK AREA

United Gas Public Service Co.'s No. 1 Dobbins, Sec. 12-19-6e, 1,186 ft. W, 700 ft. S, NE cor. Sec.	Drlg. shale 1,185 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 300 ft. S, NE cor., Sec. 2-20-4	Location.

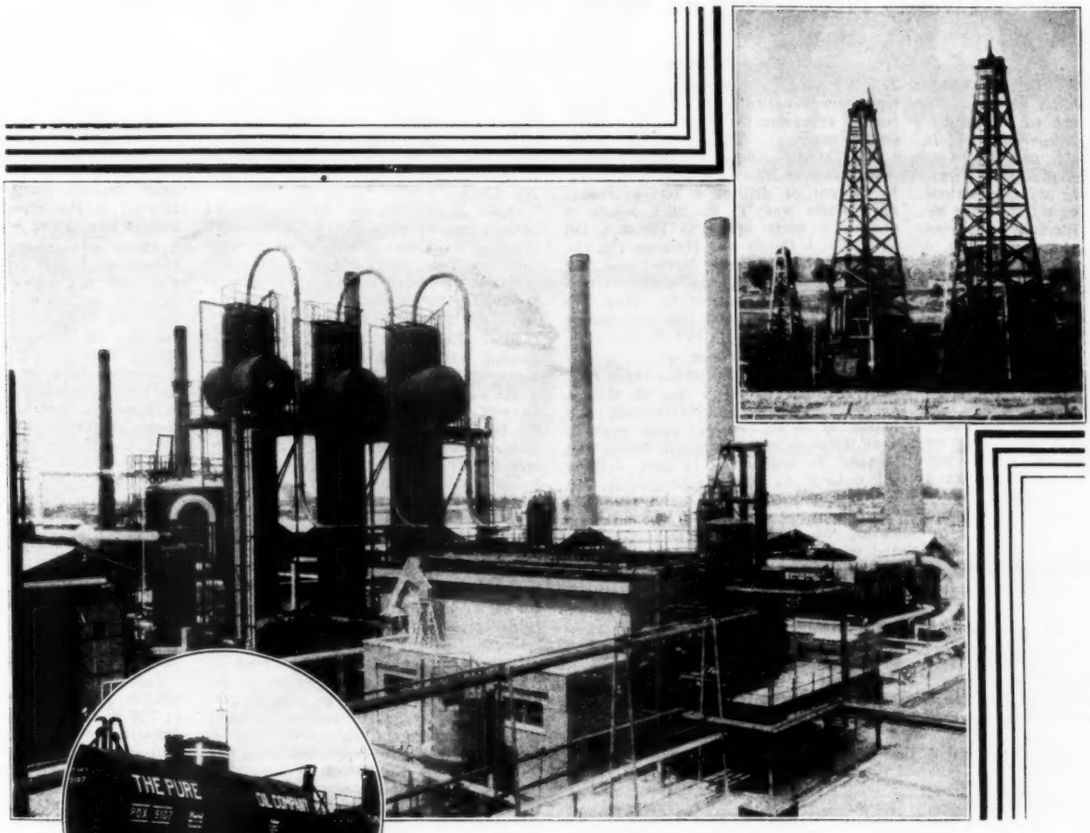
OUACHITA PARISH

Carbon Consolidated's No. 7 Guthrie, Sec. 50-20n-4e, 5,263 ft. N and 7,475 ft. W of cors. of Secs. 25, 26 and 49, in Sec. 50	Location.

RICHLAND PARISH

Pelican Nat. Gas Co.'s No. 1 Alexander, Sec. 4-16-6, 660 ft. N and W, SE cor. Sec.	Completed for 33,000,000 ft. gas 2,448 ft.
United Gas Public Service Co.'s No. 1-B Colvin, Sec. 34-17-6, 657 ft. S, 754 ft. E, NW cor.	Drlg. 150 ft.
Southern Carbon Co.'s No. 6 Rosengraut & Ducomb, 2,-640 ft. E, 1,980 ft. N, SW cor., Sec. 19-17-6	Set 12½-in. 186 ft; set 8-in. 862 ft; drlg. 1,865 ft.
Southern Carbon Co.'s No. 8 Rosengraut & Ducomb, 2,546 ft. E. 660 ft. N, SW cor., Sec. 18-17-6e	Set 6⅝-in. 2,285 ft.
United Gas Public Service Co.'s No. 14 Rhymes England, Sec. 32-17-6e, 392 ft. N, 663 ft. W, SE cor. section	Set 6⅝-in. 2,300 ft.

(Continued on Page 64)



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PURE

PRODUCERS, REFINERS, MARKETERS OF A COMPLETE LINE OF PETROLEUM PRODUCTS

THE PURE OIL COMPANY, U. S. A.

New Pettus Pool Well Makes 355 Bbls.

Three Good Wells Completed in Escobas Field, Zapata County. Twenty New Locations Made. Carolina-Texas Test Important

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Dec. 7.—Houston Oil Co.'s No. 2 Portis, the east offset to the Damac dsicovery well in the new Pettus Pool in Bee County and the farthest east test, after being fully completed gauged 355 bbls. a day on three-quarters-inch choke. That makes it about as good as any well in the field. Total depth is 3,908 feet and top of sand 3,898 feet. This completion and the bringing in of a small gas well in the northeastern part of McMullen County and the completion of one good oil well in the first sand and two in the second sand in the Escobas Field in Zapata County were the features of the week, in field work.

The number of new locations announced for the week about keeps up the average the last several weeks, being 20.

The completion of the Houston Oil Co.'s No. 2 Portis shortens the gap between the new pool on the southwest and the old pool which stops with the townsite on the northeast, but there seems to be no doubt there is a cross fault between the two and that they will not exactly join up. Houston Oil Co. has made location for its No. 3 Portis one location farther northeast from No. 2 and it will be interesting to see what it makes when completed. There is about 1 mile between production in the two fields at this time.

There are left at this time four tests drilling in the southwest extension pool, all interesting and important. H. H. Weinert's No. 1 Ray that missed the 3,900-foot pay is now down 4,500 feet and drilling. It is half way between the discovery well on the east and the Buchanan-Lefevre producer on the west, being a quarter of a mile from either. The Buchanan-Lefevre well, the Damac discovery well and the Houston Oil Co.'s No. 2 Portis, an east offset to the Damac, now constitute the only producers in the extension. Weinert will test for deeper sands.

The Texas Company is drilling a northwest offset to Buchanan-Lefevre and W. L. Morgan is drilling a test southeast of Weinert and T. B. Slick estate is drilling a north offset to Houston Oil Co.'s No. 1 Portis and Houston Oil Co. is starting No. 3 Portis farther east. All of these wells when completed will furnish important information. They are no more than started at this time except the Weinert well.

Deep Test

At the northeast end of the older field United Production Co.'s No. 39 Ray is below 7,500 feet and interesting and important in its progress from week to week because of its present depth and because its orders are to keep drilling till ordered to stop. It is within 250 feet of being as deep as the Humble's "next to the deepest" well in Southwest Texas, No. 50 Kohler in Duval County, and within 500 feet of the deepest hole ever drilled in Southwest Texas, the United Production Co.'s test in Refugio.

Southwest of Pettus

The coming week will probably see a verdict returned on Hughes and others' No. 1 Martin, 10 miles south and a little west of the Pettus area and nearly a half mile south of the two gas producers of the Simms Oil Co. in the J. A. York Survey that produce at around 3,550 feet. The pool consists of but the two gas wells which are the only tests drilled. The Hughes test at the close of the week was close to 3,500 feet and over the week-end may go into the sand if the sand is there. Al Buchanan is down 1,500 feet in No. 1 Mary Dorenfield located about 1,000 feet east of the Simms gas wells and this and the Hughes test are the only ones that have been started in the area since Simms completed the two gas wells.

Laredo District

Magnolia Petroleum Co. is starting No. 7 Wilson in the Schoolfield-O'Byrne extension and it is the farthest south location in the field. The location is 1,150 feet from the north line and 1,340 feet from the west line of Survey 134. The company has some other producers in the same survey between the new location and the north line of the survey and most of the field up to this time is in Survey 135 which is next north of No. 134.

Other than this test drilling for the present has stopped in the Schoolfield-O'Byrne extension. Enough oil production has been developed to satisfy the demands of contracts and until more is needed further drilling will be delayed.

Escobas Pool

Since Etheridge brought in a good flowing well in the second sand of the Escobas Pool in Zapata County some weeks ago there has been an increase in activity in that district and last week O. W. Killam brought in his No. 10 Bustamente at 1,458 feet for 100 bbls. and Winch & Billings brought in No. 3 Bustamente at 1,463 feet for 350 bbls. and in the north end of the field which thus far has been developed only in the first sand Trevino Oil Corp. brought in No. 13-B Trevino flowing 125 bbls. Necessity to drill offsets is not responsible for the new drilling. There is a demand for this oil because of its antiknock value.

Carolina-Texas Field in Webb

Brief mention was made last week of the new Usher Carson producer in the Carolina-Texas Field. The full importance of the new well was not brought out and there was a slight error. Carson brought in the discovery well at 2,609 feet, known as No. D-2-A Webster and the Associated Oil Co. was interested in the deal. It is a quarter of a mile north of the center of Survey 684. It made at the rate of 1,500 bbls. for a time but was later pretty much surrounded by dry holes. There were two gas wells completed in the same sand north of it and 1 mile west but a quarter of a mile south the sand was picked up again and made a few fairly good wells.

Magnolia Petroleum Co. offset No. D-2-A, on the northwest and failing to get anything worthwhile in the 2,600-foot sand drilled to 3,000 feet where it made a small well. This was several years ago and the well is still pumping.

Carson lately got his lease back and drilled No. D-5 Webster, which had been a small well at 2,600 feet, down to 3,050 feet and has 24 feet of good sand at 3,026-50 feet. Two wells a half mile south made small wells in the 3,000-foot sand. Carson's No. D-5 Webster came in flowing at the rate of 125 bbls. a day and is now going on the pump.

There is nothing to the east to prevent a good field being developed, there being no dry holes for some distance. Shankle drilled one test a half mile southeast and got some oil at 3,000 feet but lost the hole and did not start another. This oil production lies on the southeast flank of the gas production and the amount of sand in No. D-5 Webster which is much more than found in the 3,000-foot tests to the northwest, west and south seems to indicate possibilities.

No. D-5 Webster is in approximately the center of Survey 684 and Carson is skidding his derrick and rig to No. D-4 Webster which is a little north of No. D-5 and will deepen it. The oil is high gravity being around 47 degrees and the production is being sold. Due to the high evaporation Carson is building vacuum tanks to take care of the production until taken into the pipe line.

McMullen County

Jacob, Buzzini & Pickett's No. 1 Jacob, in northeastern McMullen County, at 756 feet, gauged 4,000,000 feet of gas after it had flowed for some hours. The well is not far from gas wells in the Grubstake Field completed several years ago which came in at the same depth for around that amount and some of them as high as 11,000,000 feet. This was the first gas field to supply the line of the Southern Gas Co. now owned by the United Gas Co. to supply the city of San Antonio. Due to the wells going down the company has not used that gas for some years and the new gasser is therefore a little surprising. It was intended for a deep test but another test will be started for the deeper pay.

Edwards in Bexar

Two tests in southwestern Bexar County, both wildcats, are trying to get

(Continued on Page 76)

SOUTHWEST TEXAS PROVEN AREAS

DOBROWOLSKI POOL—BEXAR COUNTY

Company, farm and location—	Remarks:
Williams et al's No. 2 Strunk, Juan Montez Sur.	Rigging up.

NORMANNA POOL—BEE COUNTY

C. F. Nichols' No. 1 Hicks	T.D. 1,992 ft.; rigging to deepen.

PETTUS POOL—BEE COUNTY

C. R. M. Drlg. Co.'s No. 1 Ray	Making location.
United Prod. Co.'s No. 39 Ray, 1,130 ft. to SE line, 2,396 ft. to SW line of T. Hanson Sur.	T.D. 7,375 ft.; drlg.
H. H. Weinert's No. 1 Ray, 150 ft. N and E lines of lease in Jno. W. Williamson Sur.	T.D. 4,557 ft.; drlg.
Houston Oil Co.'s No. 2 Portis, 330 ft. from N and W lines of A. Smalley Sur.	T.D. 3,908 ft.; comp. flowing 355 bbls. oil.
W. L. Moran et al's No. 1 Ray, 150 ft. to N and E lines of 10-ac. lease, next south of Weinerts, John W. Williamson Sur.	Derrick.
T. B. Slick Estate's No. 2 Ray, 330 ft. to W line, 150 ft. to S line, Geo. A. Kerr Sur.	Drlg., after setting surface csg.
The Texas Co.'s No. 1 E. Gemmel, 150 ft. to S and E lines of tract in south John Pace Sur.	T.D. 457 ft.; drlg.

SIMMS POOL—BEE COUNTY

Al Buchanan's No. 1 Mary Dorenfield in John Lyford Sur., 169 ft. to W line, 2,305 ft. to N line of tract	T.D. 1,205 ft.; drlg.
Hughes et al's No. 1 Martin, 1,000 ft. S of Simms Oil Co.'s No. 1 Holzmark in John Lyford Sur.	T.D. 3,480 ft.; drlg.

BRUNER POOL—CALDWELL COUNTY

Joe Bruner's No. 1 Malone, 150 ft. to N line, 750 ft. to W line of tr., A. Floyd Sur.	T.D. 2,572 ft.; standing.
John Storey's No. 1 Dickerson, 150 ft. to N of center of S line of tract, John R. Rains Sur.	Moving in rig.

S.R.C.-VACUUM POOL—DUVAL COUNTY

S.R.C. and Vacuum's No. 6 Duval Land Co., 150 ft. W, 450 ft. N of No. 5, Sur. 293	T.D. 1,746 ft.; comp. 100 bbls.

SCHOOLFIELD-O'BYRNE POOL—DUVAL COUNTY

Duval Oil Corp.'s No. 6 Bishop Cattle Co., 1,980 ft. to W line, 990 ft. to S line of N half of Sur. No. 135	T.D. 2,397 ft.; comp. 500 bbls.
Magnolia Pet. Co.'s No. 6 Wilson, 330 ft. to E line, 2,346 ft. to N line of Sur. No. 136	T.D. 2,272 ft.; comp. 45,000,000 ft. gas.

(Continued on Page 62)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks:
Glen Mathis' No. 2 Mrs. C. Martin, 100 ft. SE of No. 1.	T.D. 2,980 ft.; S.D.

BLANCO COUNTY

Hardy-Sitton's No. 1 McMillan	T.D. 602 ft.; S.D.
Theo. Hicks' No. 1 Specht, 1,500 ft. from S line, 500 ft. from W line of farm, in Thomas M. Fowler Sur. No. 27 in extreme south point of county	T.D. 1,650 ft.; S.D.
Lles Adams et al's No. 1 Luders, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T.D. 1,100 ft.; standing.
McCleary et al's No. 1 Schenling, 900 ft. to SE line, 600 ft. to S line of J. A. Rouse No. 118 Sur., 4 miles SW from Blanco City	T.D. 574 ft.; S.D.
C. Rosenfield's No. 1 Hohenberger, 800 ft. to W line, 1,260 ft. to N line, Sur. No. 94	T.D. 712 ft.; S.D.

BASTROP COUNTY

E. R. Mart's No. 1 Bahme, 1,650 ft. to E line, 1,300 ft. to S line of farm, James Standifer Sur.	Rigging up.
Sun Oil Co.-Humble Oil & Ref. Co.'s No. 1 Powers, 400 ft. to N and E lines of Blk. 197, Bastrop town tracts.	Derrick.
Texas Dev. Co.'s No. 1 C. H. Ray, 800 ft. from W line and 400 ft. from S line of farm, in Thos. Christian Sur.	T.D. 2,600 ft.; drlg.

BELL COUNTY

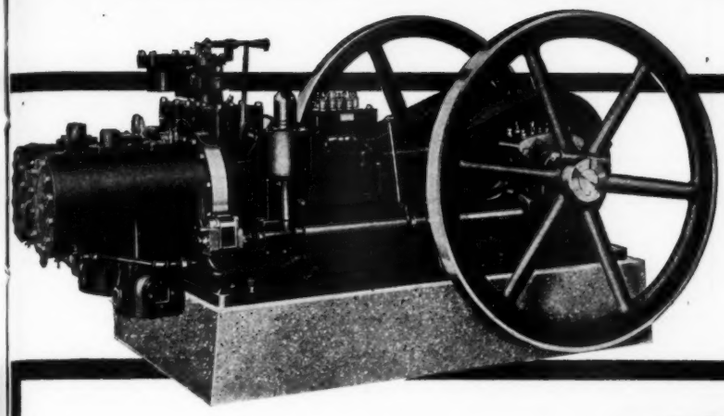
Bridwell et al's No. 1 Nichols, 150 ft. to W and N lines of farm, N. Roberts Sur.	T.D. 330 ft.; drlg.
Bridwell et al's No. 1 G. A. White, 550 ft. to E line, 150 ft. to S line of farm, Nancy Roberts Sur., 4 miles SE from Belton	T.D. 450 ft.; drlg.
J. W. Riley's No. 1 W. S. Chaffin, in M. Griffin Sur.	T.D. 365 ft.; S.D.
Jas. Scroggins' No. 2 Warrick, Ingram Sur.	T.D. 1,432 ft.; S.D.

BEE COUNTY

Alexander et al's No. 1 McFall, 3 miles S Skidmore	T.D. 1,870 ft.; standing.
Humble O. & R. Co.'s No. 1 Laura Thompson, 6,360 ft. from N line, 15,100 ft. from W line of tr. in Garrett Roache Sur., S part of county	T.D. 3,978 ft.; drlg.
Houston Oil Co.'s No. 3 Portis, 300 ft. E of No. 2, A. Smalley Sur.	Location.

(Continued on Page 62)

POWER!
FOR DEEP WELL PUMPING



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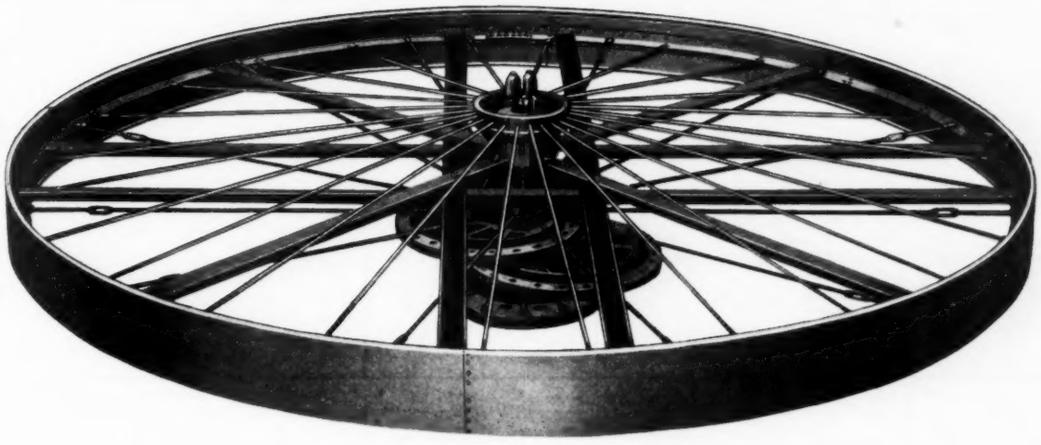
National 15C Band Wheel Power renders long, continuous, economical and dependable service by virtue of its simple design, rugged construction and fully enclosed flood oiling system.

Ask for Descriptive Bulletin No. 1B.

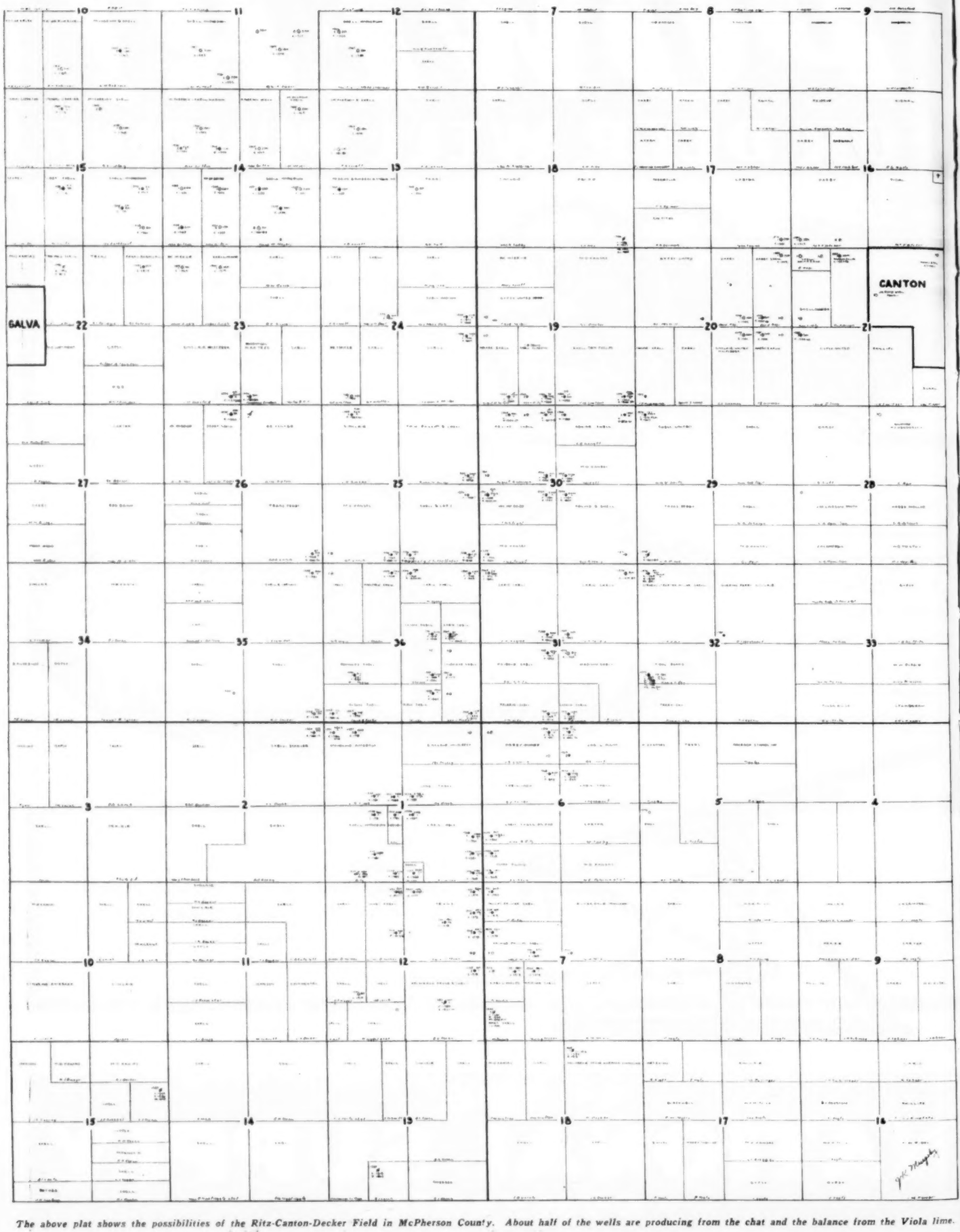


National Type C-130 Pumping Jack is of welded steel construction, exceptionally strong and rigid. Rated polished rod load, 13,000 pounds; rated length of approximately straight line stroke, 48 inches.

Ask for Descriptive Bulletin No. 28.

THE NATIONAL SUPPLY COMPANIES

DECKER-RITZ-CANTON AREA, McPHERSON COUNTY, KANSAS



The above plat shows the possibilities of the Ritz-Canton-Decker Field in McPherson County. About half of the wells are producing from the chat and the balance from the Viola lime.

North Refugio Well Opens New Field

Number of Others on Same Trend Expected by Geologists. District Made Up of Large Blocks Assuring Systematic Development

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Dec. 7.—Completion of Humble Oil & Refining Co.'s wildcat on the O'Connor Ranch in northern Refugio as a producing well not only has opened another new field on the Gulf Coast but also has renewed interest in the lower coastal "country," in which it is located, as the potential source of a petroleum reserve of considerable proportions. The well is on what is known as the Refugio trend, in which several fields, including Refugio, have been brought in within recent years and the opinion of geologists and others for some time has been that a number of other fields, more or less closely linked, are to be expected in this general line of play extending up and down the coast for many miles.

The Humble wildcat, No. 1 O'Connor, is estimated good for 2,000 bbls. of pipe line oil daily. It was swabbed in December 2 after setting 34 feet of screen in a broken sandy shale formation at 4,127-55 feet and in its eight hours of production before being shut in flowed 720 bbls. The well started off at the rate of 140 bbls. hourly but settled to between 80 and 90 an hour. Production was through a three-eighths inch choke showing a working pressure of 800 pounds on the casing and 200 pounds on the tubing. Shut in, the well shows a pressure of 1,350 pounds. Gravity of the oil is 24 degrees, comparable to the crude from the 3,700-foot sand of the Refugio Field.

The well originally was swabbed in late Tuesday night but soon went dead and was brought back in Wednesday. After eight hours of steady flow, however, sand was cutting out the choke and the well was shut in. Earthen pits are being dug, as this is written, and into these the well will be opened and flowed to clean itself pending arrangements for steel storage and disposition of the oil. The nearest pipe line is at Refugio, through which the Humble Pipe Line Co.'s Pettus-Ingleside 8-inch line passes. The well, however, is just a short distance from the main line railroad and it is likely loading racks will be provided temporarily and the oil moved by rail to Refugio.

In Solid Block

Exact location of the well is in the John Keating Survey, the check being 6,012 feet south from the northeast corner along the southeast line of the Lon T. Rios Survey and thence 7,375 feet west at right angles. This is in the heart of a virtually solid block of approximately 19,000 acres, which the Humble owns in northern Refugio County and southwestern Victoria County. This block is the remainder of a block nearly twice that size which originally was obtained for geophysical exploration.

This is in what is known as the Marianna district, where, on the Victoria County side, large blocks are held by The Texas Company, United Production Corp., Lion Oil & Refining Co., Houston Oil Co., Shell Petroleum Corp., and others. A few small tracts in the Humble block also are owned by Shell and also by Gulf Production Co. The area already had been proved as a gas field of large proportion. The Humble well itself, while at a depth of 1,436 feet, blew out and was out of control for four days before being killed. Three miles to the north of Humble's well, The Texas Company early this year completed a gasser at a total depth of 2,025 feet, its No. 2 McFaddin, located on that company's block adjoining the Humble block to the north and west. Three and a half miles west of that, United Production Co., on a block held jointly with Lion Oil & Refining Co., has four gas wells in a 3,70[illegible]-foot sand, known as the McFaddin Field. Two and a half miles north, the T. B. Slick estate has a high pressure gasser, its No. 1 McFaddin, in a sand at a total depth of 3,512 feet.

The fact that the district is made up of large blocks with large fee ownerships forestalls any boom activity in the area and enables a conservative and systematic development. Virtually all the acreage is composed of what are known as the McFaddin and the O'Connor ranches, each of which covers a vast territory.

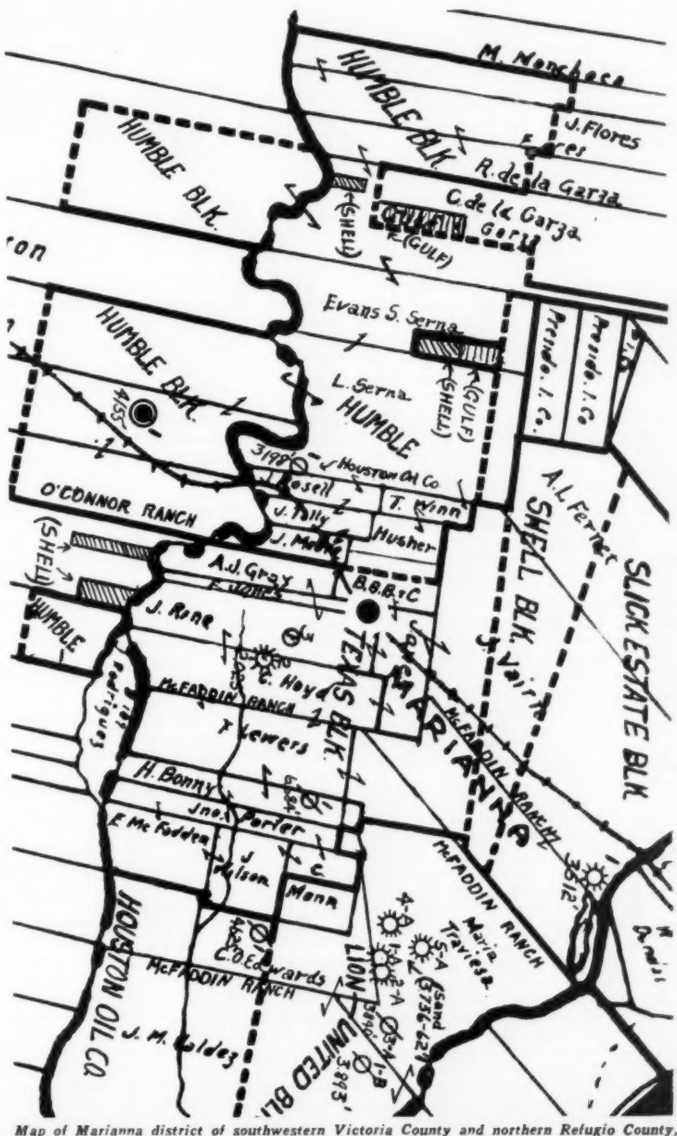
The Humble well, the first test drilled by that company on the block, is the result of a torsion balance survey which indicated a "high." The area also has been "shot" thoroughly. The Texas Company and the Shell Petroleum Corp. also have worked the district with instruments. Blocking of the area was done two years ago in the active lease play which swept over the lower coastal counties following the development of the Refugio and Pettus Fields.

The Marianna district has born a striking similarity to the Refugio Field as have other fields which have been developed along the Refugio trend. All first have been proved as high pressure dry gas producers with peculiar sand conditions. Numerous sand beds and lenses have been found in the development of each field but while the main beds run with an uncanny degree of uniformity as to elevation and correlation, the earlier development has shown production more or less irregular and somewhat spotted. This is typical in The Texas Company's No. 3 McFaddin, now drilling, which encountered the identical sand as that in Humble's producer and at practically the same elevation yet it tested salt water. Also in some wells gas production is obtained in sand which at virtually the same elevation tests salt water in other wells, and vice versa. Deep dry holes have been drilled between producing wells.

District Question Mark

Geologically, this district, as well as Refugio and most other fields on this same line of play, is somewhat of a question mark. There are indications that these fields are located along an old shore line, similar to the East Texas Field but with numerous successive depositions, and only the fact that the sands are not as prolific keeps these fields from being as important as East Texas. The Refugio Field, itself, has the earmarks of having been built up as an ancient river delta although some geologists hold to the idea that it, and possibly the others, overlie deeply seated salt domes.

(Continued on Page 68)



Map of Marianna district of southwestern Victoria County and northern Refugio County, Texas, showing Humble Oil & Refining Co.'s No. 1 O'Connor, discovery oil well, with relationship to previous gas production. The well is 18 miles northeast of the Refugio Field.

GULF COAST FIELDS AND WILDCATS

Week Ending December 5
All Rotary
BARBERS HILL—CHAMBERS COUNTY

Company, farm and location—	Remarks—
Mills Bennett Prod. Co.'s No. 1 Gulf fee, Henry Griffith League, 50 ft. out of NE cor., Strip 15	Cored hard sand rock 4,845 ft.
Mills Bennett Prod. Co.'s No. 6 Wilburn, Henry Griffith League, 125 ft. W of No. 5 in center of tract	Drlg. salt 2,756 ft; top 1,406 ft.
Mills Bennett Prod. Co.'s No. 5 Gulf-Fisher, Wm. Hodges Sur., 75 ft. from N line, 191 ft. W of No. 4	Drlg. sandy lime rock 1,217 ft.
R. E. Ferrell's No. 2 Wilburn, Henry Griffith League, 215 ft. W of No. 1 in center of 45-acre tract	Drlg. lime rock 1,481 ft.
Gulf Prod. Co.'s No. 6 Wilburn, Henry Griffith League, 50 ft. from S line of lease and 400 ft. W of No. 3	Drlg. hard shale 3,841 ft.
McAlbert Oil Co.'s No. 2-A Higgins, Wm. Bloodgood Sur. (W.O.)	Set 22 ft. of 3-in. screen 5,230 ft.; completed pumping 60 bbls. 5,230 ft.
Nat Hunter Prod. Co.'s No. 3-B Barber, Henry Griffith League, 538 ft. from E line, 70 ft. from S line of tract	Set 176 2-3 ft. 5-in. screen 4,852 ft; completed flowing 1,800 bbls. P.L. oil, 630 lbs. pressure, ¾-in. choke.
Nat Hunter Prod. Co.'s No. 1 S. E. Morgan, 225 ft. N of S line in center of Strip 2 (4.4 acres), Henry Griffith League	Drlg. salt 2,797 ft; top 1,376 ft.
Nat Hunter Prod. Co.'s No. 1 J. M. Fitzgerald, Henry Griffith League, 75 ft. from W line and 125 ft from S line of tract	Drlg. hard sand rock 666 ft.
Sinclair Oil & Gas Co.'s No. 9 Wilburn, Wm. Hodges Sur., 50 ft. N of S line and 550 ft. W of No. 6	Drlg. rock 2,501 ft.
Sinclair Oil & Gas Co.'s No. 10 Wilburn, Wm. Hodges Sur., 50 ft. S line, 100 ft. W of No. 9	Drlg. lime rock 1,152 ft.
Sinclair Oil & Gas Co.'s No. 11 Wilburn, Wm. Hodges Sur., 125 ft. W of No. 8 and 45 ft. S of N line	Drlg. broken lime rock 1,143 ft.
Sun Oil Co.'s No. 2 Higgins, Wm. Bloodgood Sur., 1,095 ft. W of No. 1 and 50 ft. N of S line	Drlg. rock 1,424 ft.

(Continued on Page 65)

Increased Drilling in Eddy County

First Test of Dakota Sand in Greasewood Pool Disappointing Thus Far. New Tests at Frannie Dome, North Geary Dome and Salt Creek

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Dec. 7.—Cold weather prevailing over the entire Rocky Mountain area has delayed drilling operations and prevented the completion of several important tests. A number of wells already have shut down until spring.

The Continental Oil Co.'s No. 4-A State, in the Hobbs Pool in New Mexico, which blew in as a record gasser for that state, was killed to drill deeper and is ready to be tested. Eddy County reports an increase in drilling activity. Leonard & Levers made a new location in the Maljamar area and Western Drilling Co.'s No. 1 Green, northeast of the Artesia Pool, is showing considerable gas.

In Colorado, the Reiter-Foster Oil Co.'s No. 1 Johnson-Juhl, in the Greasewood area, found the first bench of the Dakota dry and water in the second bench. Greeley Oil Co.'s No. 1 Gadbois, to the southwest of production, may be a small producer, but is disappointing. Cold weather delayed the testing of the Dakota in Prairie Oil & Gas Co.'s No. 1 Mortier.

The Producers & Refiners Corp. was high bidder for the government's royalty oil in Salt Creek with a bid of a premium of 22¼ cents per barrel over Mid-Continent prices. The Simpson Ridge Field in Carbon County is being abandoned following a decline in production. The Midwest Refining Co. is starting a new well on the Frannie Dome and a test on the North Geary Dome and will drill several Sundance sand wells in Salt Creek. The Ohio Oil Co.'s Neiber Dome test found the Sundance dry at 8,596 feet.

In Montana the Ohio Oil Co.'s No. 1 Chapman, northwest of the nearest producer on the Dry Creek Dome, is showing water in the Lakota and the Carbon Oil & Gas Co.'s test on the east side has oil and gas showing in the Dakota. Several wells were abandoned in Montana fields and no new operations were reported.

NEW MEXICO

Continental Oil Co.'s No. 4-A State-33, NE NW SE Section 33-18-38, in the Hobbs Pool, which blew in unexpectedly last week at 4,050 feet, making 266 bbls. of oil per hour and 138,500,000 feet of gas per day from a porous lime more than 100 feet above the objective pay, was killed and deepened to 4,154 feet. The 3-inch tubing was run to 4,128 feet and mud is being swabbed preliminary to testing. Same company's No. 5-A State-33, C NW SE Section 33-18-38, is drilling at 3,670 feet in anhydrite.

Midwest Refining Co.'s No. 26 State, NW SE SE Section 33-18-38, is drilling at 3,902 feet in lime and is expected to be an early completion. Its No. 8 Byers, SE NW NW Section 3-19-38, is drilling at 3,467 feet in anhydrite and lime. It topped the brown lime at 2,795 feet and had the first gas at 2,800 feet.

Pacific Coast Oil Co.'s No. 1 Blakey, C SW NW Section 28-19-38, 2 miles to the southwest of the nearest producer in in the Hobbs Pool, spudded to the top of the red beds at 84 feet and is waiting for 15½-inch pipe and is ready to move in a rotary.

Western Drilling Co.'s No. 1 Russell-Steele, SW cor. Section 14-20-33, Lea area, is still a location and probably will not be drilled for some time.

There is a noticeable increase in activity in Eddy County. A new location was reported this week in Leonard & Levers' No. 6 State, C NW Section 28-17-29, in the Maljamar area northeast of the Artesia Pool. The material is on the ground. This location is half a mile northwest of the same firm's No. 5 State, a gas well and the most westerly of the firm's group of gassers.

Western Drilling Co.'s No. 1 Green, NE cor. NW Section 29-17-29, had a show of gas at 2,176-80 feet, and 1,000,000 feet a day at 2,184-86 feet. There was an increase at 2,255 feet, the aggregate flow being around 2,500,000 feet. This well is about a mile northwest of the new Leonard & Levers location and in a district which has had but little development on account of the acreage having been tied up in an estate until recently.

Flynn, Welch & Yates' No. 62 State, NW cor. SE Section 10-19-28, is bottomed at 615 feet in anhydrite, where 8¼-inch was cemented. Same firm's No. 61 State, SE NE NW Section 32-18-28, is shut down at 650 feet waiting for completion of No. 62 State. Same firm's No. 1 State, NE cor. SE Section 26-20-27, is still a location.

R. D. Compton's No. 1 Compton, NE NW NE Section 8-18-27, is drilling, and Western Drilling Co.'s No. 1 Baker, SE NE NE Section 21-21-26, Carlsbad area, is shut down at 1,155 feet.

De Baca County

Matador Oil Co.'s No. 1 Wood, NE SW SW Section 6-4n-20, Salada Creek, is drilling at 3,235 feet in shale. The depth was corrected from 3,205 to 3,235 feet.

Landowners Oil Co.'s No. 1 McAdoo, SW cor. NE Section 16-1s-27, Buffalo Creek, is drilling at 4,633 feet in shale.

Santa Fe County

New Mexico Securities Co.'s No. 1 State, NE cor. SW Section 6-10n-7e, Barton district, 24 miles east of Albuquerque, is drilling at 250 feet in shale. E. J. Fisher has the contract. It is reported the company is after carbon dioxide gas with which to manufacture dry ice.

Bernalillo County

Norins Realty Co., Inc.'s No. 1 Pajarito grant, NW cor. NE Section 22-9n-1e, is shut down at 955 feet for 15½-inch pipe. The 15½-inch will be lowered from 896 feet and carried. It had a hole full of water at 871 feet.

Guadalupe County

New Mexico Producing & Refining Co., Ltd.'s No. 1 McMillan, SW cor. Section 24-5n-16, Mesa Leon district, is bottomed at 3,010 feet. The 10-inch, which was frozen at 2,810 feet, was loosened and lowered to 3,000 feet, where it was cemented. More water was encountered at 3,010 feet and it was decided to run and carry 8¼-inch.

San Miguel County

Star Oil Co. Ltd's No. 3 Adams, NE cor. Section 25-17-17, Graham structure, is drilling at 5,090 feet.

San Juan County

R. C. Oswell's No. 2, NW NW Section 34-30-11w, near Aztec, which gave indications of being a 25-bbl. well of very high gravity crude at 1,414 feet, may be a better well than first reported. When the swab was run to 400 feet off bottom the past week the well made a head, throwing the oil to the crown block. Several attempts to swab were made with the same results. It made around 8 bbls. at each head. Oswell plans to drill another well and may put down several.

Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. Section 20-28-10, Kutz Canon, is drilling at 3,742 feet.

COLORADO

Weld-Morgan Counties

The first well in the Greasewood area to test the Dakota sand, the first sand below the Muddy, the present producing horizon, so far is a disappointment. This is Reiter-Foster Oil Co.'s No. 1 Johnson-Juhl, C SE SE Section 14-6n-61, half a mile to the west of Continental Oil Co.'s No. 1 Briggs, the best well in the pool and the nearest producer. It topped the Dakota at 6,756 feet and drilled 19 feet of sand to 6,775 feet, the sand being entirely dry, showing neither oil, gas nor water. It then went into shale and bentonite at 6,756 feet and after going through a 10-foot break, again entered sand at 6,785 feet and was drilled 12 feet into the sand. The bailer was run and brought up water. Upon being run the second time there was about a bucketful of very high gravity, light amber-colored crude on top of the water. This crude appeared to have a gravity of 55 to 60 degrees. The fluid was standing 1,200 feet in the hole and bailing did not lower it. Drilling was then resumed and at last reports it still was in sand at 6,812 feet with no important change in conditions. There was only a small show of gas. The sand was dark gray and very fine as it came from the hole and upon drying gradually became lighter. It appears to be a very good sand. The Dakota is estimated to be around 150 feet thick and it is planned to go on through it and probably down to the Lakota.

While there remains a possibility that additional breaks may be encountered in the sand and oil will be found beneath, the results so far tend to confirm the growing opinion among geologists that there is no structure at Greasewood and that the oil in the Muddy originates in the shale and is sealed in lenses of sand. This is going to make the two tests being drilled to the northwest and southeast of Greasewood by the Prairie Oil & Gas Co. increasingly important. The three producing wells in the field in the week ending November 26 averaged as follows: No. 1 Briggs, 362 bbls.; No. 1 Johnson, 184 bbls.; No. 1 Patterson, 137 bbls.

Next in interest to the No. 1 Johnson-Juhl was the drilling in of the Greeley Oil Co.'s No. 1 Gadbois, C NW NW Section 25-6n-61, three-fourths of a mile south and a little west of No. 1 Patterson, the discovery well and the nearest producer. While there is a difference of opinion as to where the top of the Muddy was encountered, 7-inch was cemented at 6,671 feet and the total depth is 6,691 feet. It was bailed down and the water was exhausted. Oil stood 500 feet in the hole and there was not sufficient gas pressure to lift it. The oil appears to be coming from about 18 inches of good sand at the bottom. The upper part of the Muddy contained considerable shale. The well is shut down on account of water shortage and it has not yet been announced what will be done next.

Possibilities East Unknown

No wells have been drilled east of the three producers and the possibilities are unknown. The Platte Valley Petroleum Co. has the lease on the east half of Section 13-6n-61, and cellar was dug for its No. 1 Niles in the SW cor. SE of the section, an east offset to the Continental's No. 1 Briggs, but nothing further has been done. It was announced that Frank E. Kistler & Co. had contracted to drill the well, but the Platte Valley company denied the contract had been signed. It then was reported that the Ohio Oil Co. would put down the well, but no confirmation was obtained. It is stated, however, that the Platte Valley company has negotiations pending, but with whom was not announced.

Other Greasewood wells show no material change from last report. Reiter-Foster Oil Co.'s No. 1 Wilson, C NE NE Section 24-6n-61, is standing with 15½-inch cemented at 320 feet.

Continental Oil Co.'s No. 1 Gadbois, C SE SW Section 24-6n-61, is bottomed at 6,593 feet and is fishing with 4-inch pipe for lost tools. The fishing string and the cable to the drilling string have been recovered.

Prairie Oil & Gas Co.'s No. 1 O'Toole, C SE NE Section 33-7n-62, 10 miles northwest of the Greasewood Pool, which had to shut down on account of frozen lines as it was preparing to run 9⅝-inch, is resuming. The total depth is 4,500 feet and the pipe will be run to 4,438 feet.

Prairie Oil & Gas Co.'s No. 1 Mortier, C NE NW Section 2-5n-60, Jackson Lake area, 6 miles southeast, of Greasewood, which cemented 7-inch at 6,538 feet, in the caprock to the Dakota, started drilling out cement the first of the week preliminary to testing the sand, but found the cement still soft and shut down for it to harden. Total depth is 6,552 feet, 22 feet in the Dakota, which showed saturation and which gives evidence of making a well.

Fort Morgan Area

Colorado Associated Oil Co.'s No. 1 Pumphrey, C SE SE Section 11-4n-58, North Fort Morgan, is drilling and coring in the Dakota at 5,950 feet, 114 feet below the top. It is headed for the Lakota, expected at 6,070 feet. If the Lakota is dry, it is probable the hole will be plugged back to further test the upper 12 feet of the Dakota, which showed some gas and oil saturation, and then the Muddy, which was not tested on the way down.

Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE Section 16-1n-57, South Fort Morgan, is bottomed at 5,905 feet and is sidetracking junk at 5,640 feet after cementing back to 5,596 feet. Tools were sidetracked and then fell back into the hole and it may have to recement.

North of the Colorado Associated Oil Co.'s block and to the northeast of Weldona is a block comprising 19,160 acres held by the Fort Morgan Oil Co., which probably will be tested next spring, or earlier. The company has had some offers to drill the block, but so far has not closed a deal. Unless a satisfactory offer is made, the company probably will undertake the test on its own account. This structure was mapped by John H. Wilson, consulting geologist, formerly with the Midwest Refining Co., and checked by Dr. R. D. George, head of the geological department of the University of Colorado. Two highs are shown on the map, an east and a west dome. The east dome is not as clearly defined at the surface as the other, but the west dome has numerous rock exposures which permitted the working out of the structure on surface geology, and is surrounded by an escarpment which is visible for most of the distance. The structure also was worked out independently with the magnetometer which showed a high that corresponded with the geological high. The country is rough and broken and resembles Salt Creek to a noticeable extent. An interesting feature of the geology is that three anticlines converge on the structural high, these being the Wild Horse Creek, Pawnee Creek and Fort Morgan arches. The Magnolia Petroleum Co. has blocks both to the east and the west of the Fort Morgan company's block.

(Continued on Page 70)

RELIABILITY

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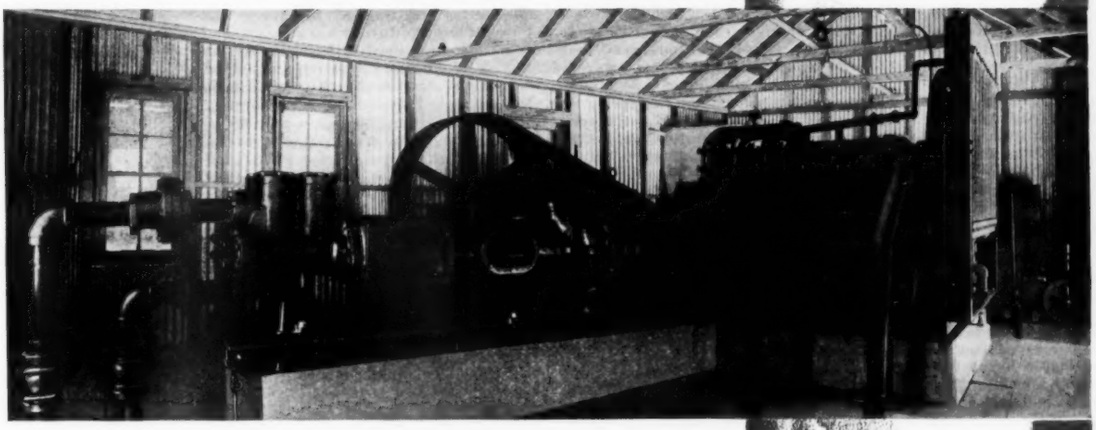

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OGJ-12-10-GRAY

CONTINENTAL

California Producers Again Warned

Sales Agency Urges Continued Co-operation to Avoid Repetition of Collapse Last Spring. Re-establishment of Potentials Needed

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Dec. 5.—There was no great change in California's crude oil production during the week, although production was somewhat lower than during the preceding week. Potential production of the State for December was 27,200 bbls. per day in excess of the November potential, which was set at 1,031,500 bbls. The November potential was 44,600 bbls. per day below the October potential of 1,076,000 bbls. The completion of several substantial producers increased the potential daily production of Kettleman Hills from 190,300 bbls. in November to 235,300 bbls. With the exception of Mount Poso, Round Mountain, Rincon, Ventura Avenue, Ventura-Newhall, Dominguez and West Coyote, the potential daily production of all other fields was reduced during December. The potential of Long Beach was reduced from 109,100 bbls. to 108,840 bbls. per day, Playa Del Rey from 36,430 bbls. in November to 31,850 bbls. in December, Santa Fe Springs from 112,950 bbls. to 110,325 bbls. per day during the same period and Huntington Beach from 43,550 bbls. per day in November to a maximum potential of 36,860 bbls. in December. No change was made in the maximum allowable daily production of the State, which remains at 487,500 bbls. until January 1, 1932. With the beginning of the new year, however, the allowable daily production of the State will be reduced to 456,700 bbls., the economic limitation of production indicated by the recent economic survey. Detailed figures covering the allowable daily production of each field for the first six months of 1932 should be available some time during the coming week.

Judging by results achieved up to the present time, it looks as though Umpire Neal Anderson will have a difficult time in reducing production to the new allowable. It might not be amiss to mention in this connection that a re-establishment may be made in the potential daily production of several properties, particularly in the Long Beach, Santa Fe Springs and Playa Del Rey Fields. Action of this nature would serve two purposes in that it would assure operators of an equitable distribution of the curtailment program and either prove or disprove the general feeling that curtailment of production in a number of instances is but a myth. It is the prevailing opinion among several well-informed operators that the re-establishment of potentials in several areas is urgently required and with all operators curtailing equitably state production could be substantially reduced and brought within striking distance of the maximum allowable prescribed for the first six months of 1932.

Statement by Agency

In connection with the recently completed economic survey, Rush M. Blodget, general manager of the Oil Producers Sales Agency of California, has issued a statement to the agency's members notifying them that "Officers of the Oil Producers Sales Agency have been kept fully advised of developments incident to the maintenance of production on a comparable basis with economic demand. Its officers and engineers were accorded the privilege of attending the conferences of the subcommittees of the general conservation committee, usually known as the voluntary committee on statewide curtailment, although action by the agency will be reserved for its board of directors. With the proposal of the subcommittee, on refinery economics and statistics awaiting review by the general committee, it might be stated at this time that if California is to continue to maintain its co-operative efforts, to limit production to a basis comparable with economic demand, for which we have had almost world-wide commendation it may reasonably be expected that other states will also conform to a national program in the general interest of the oil industry. The success of our program in California to date has been made possible through the whole-hearted co-operation of our members. It is believed and hoped that they will continue to co-operate in order to avoid a repetition of the deplorable conditions that existed in the spring of 1931 when the market could not absorb the production and operators were compelled to shut in wells or store oil in leased tanks or sell at a debased price to speculators. The agency is doing everything possible to permit each California producer to maintain his fair share of the production that can be sold pursuant to the demand. It is to be hoped that final determinations will be made with sufficient wisdom to forestall the collapse experienced in the early part of this year."

Kettleman Hills

The most important development in the Kettleman Hills Field during the week was the conclusion of drilling operations by the Petroleum Securities in No. 1 Burbank, a test well being drilled in the Middle Dome. This well has been bottomed at 9,285 feet and preparations are being made to land a string of casing preparatory to an early production test. This well, which required the use of extra heavy mud to counteract the increasing gas pressure, has looked both good and bad at different times during the course of work. The outcome is obviously somewhat in doubt, although officials of the company anticipate the development of commercial production. Whether this will be black oil similar to that produced from the Ochsner zone in the North Dome or comparable with the white oil produced from the Elliot zone, only the future can tell.

The Standard Oil Co.'s well No. 65-29 J, brought in last week flowing 4,415 bbls. per day from 7,885 feet, built up a short time after the establishment of this initial to 9,975 bbls. of 36.5 gravity oil and 21,000,000 feet of natural gas per day. It has subsequently been beaned down and is producing 1,390 bbls. per day. The North American's No. 1 Blauvelt in the North Dome of Kettleman Hills cored an excellent looking oil sand at 9,115 feet and the outlook for production at the present depth, 9,200 feet, is exceptionally promising. It will require some additional hole, and for this reason will probably not be completed until after the turn of the year. The Powell-Stockton Investment Co. spudded in its No. 1 in the North Dome, Section 32-22-19, following the encouraging showings found by the North American in No. 1 Blauvelt.

Dominguez

Another new well was added to the producers in the Dominguez Field when the Shell Oil Co. successfully completed No. 40 Reyes flowing 920 bbls. of exceptionally clean 33.1 gravity oil and 3,735,000 feet of gas per day from 4,956 feet. This well, which is flowing through a 1-inch bean under a pressure of 650 pounds, was finished with a 4¾-inch liner carrying 560 feet of perforated and 4,310 feet of plain 3-inch tubing. The Shell has one other incompleted drilling project under way in the Dominguez Field, but this should be tanking oil early in January. The Union has one incompleted drilling project on the Callender lease and two drilling wells on the Hellman property.

Coyote

In the Coyote Field the Standard is drilling three wells on the Murphy lease and is building rig for No. 50 on the Emery property in Section 13-3-11. This work of the Standard at West Coyote, like operations of the Union and Shell in the Dominguez Field, is being done in conformity with lease requirements and dos not indicate any change in the conservative drilling programs of the operators. In the Inglewood Field the E. K. Allison Syndicate has reached a depth of 5,600 feet in its outpost well and, while fair indications have been logged from time to time, the possibility of developing commercial production is not any too good. The Baldwin Hills Syndicate recently spudded in a new deep test on the Sentous property, which adjoins productive acreage in the Inglewood Field, and preparations are being made to drill a deep conclusive test. Interest in deep zone exploration work in the town lot section of the Huntington Beach Field is at a low ebb and this area will probably remain inactive for some time as the result of deep drilling does not justify any further expenditure under existing conditions.

San Miguelito

In the San Miguelito Field of Ventura County, the Continental Oil Co.'s discovery well, No. 1 Grubb, is still flowing a little better than 600 bbls. per day. The production has cleaned up very nicely, definitely indicating the existence of a new field. No. 1 Grubb is making only about 500,000 feet of gas per day and, while it contains a little less than 2 gallons of natural gasoline per 1,000 feet of gas, the production of gas from a quantity standpoint leaves much to be desired. The Continental, which has extensive holdings in this area, will probably start a second well around the first of the year and another in February. The latter well will be drilled on the Grubb property in conformity with lease requirements and the former on adjacent acreage. The company has not definitely decided to drill the new well which it is obliged to start on or before January 1, 1932, but will probably do so to protect its lease.

Union Wildcat

The Union Oil Co. has tentatively staked location for a new wildcat to be drilled in San Joaquin County and according to present plans should begin making hole around the first of the year. This projected wildcat is located on property acquired over a period of two years and consists of approximately 8,500 acres. The leases extend approximately 7½ miles along the west side of the San Joaquin River. The location of the first test is about 1 mile west of San Joaquin City, some 15 miles southeast of Tracy. The initial test will be drilled on property of the Tracy Land & Water Co. and, while Union officials consider this well a rank wildcat, the areas appears worthy of definite exploration. Geological work in this district is quite difficult as the presence of at least 500 feet of alluvial valley fill makes it impossible to ascertain subsurface conditions with any degree of accuracy.

The Barnsdall Oil Co. has started work on No. 1 Kern County Land Co., a wildcat to be drilled north and a little west of the Wheeler Ridge Field, situated in the extreme southern rim of the San Joaquin Basin. Rig construction got under way a few days ago and spud will probably be made within 15 days. In the Buttonwillow gas field of Kern County, the Milham Exploration Co. is making preparations to conduct a production test on No. 1 Crites, a potential gas well bottomed at 4,119 feet with a 6⅝-inch combination string landed at 3,723 feet. The General Petroleum has both of its gas wells on the More ranch in the Goleta gas field on commercial gas production and will probably perforate the casing in No. 3 More in order to complete it in the More gas zone as it failed to develop oil production after a deep test.

Fruitvale

There has been a notable increase in the amount of drilling in the Fruitvale and Round Mountain Fields of Kern County. In the former area three new wells have been started during the past few weeks and preparations are under way to start two more. In the Round Mountain Field operators are drilling

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	.....	68,690
Fuel oil	.....	.....	.....	.....	.....	71,950
Diesel and gas oil	.....	.....	93,605	13,372	1,566,803	3,541,744
Gasoline	55,132	7,876	155,897	22,271	12,066,433	18,028,642
Kerosene	.....	.....	.....	.....	187,934	.....
Coastwise:						
Crude oil	179,310	25,616	539,590	77,084	19,592,200	14,491,414
Fuel oil	340,235	48,748	294,818	42,117	12,467,363	17,224,857
Diesel and gas oil	28,935	4,134	47,698	6,814	1,391,590	1,583,560
Gasoline	195,786	27,969	307,804	43,972	13,336,745	11,749,849
Kerosene	10,305	1,472	11,977	1,711	311,681	151,436
Naphtha distillates	.....	.....	.....	.....	4,952	.....
Exports:						
Crude oil	198,685	28,384	100,011	14,287	6,793,699	6,433,218
Fuel oil	281,616	40,231	143,783	20,540	12,288,975	16,171,146
Diesel and gas oil	59,689	8,527	16,479	2,354	3,254,943	3,980,404
Gasoline	343,696	49,099	148,868	21,267	7,919,264	14,430,287
Kerosene	5,211	744	12,559	1,794	1,645,733	3,182,497
Lubricants	.....	.....	.....	.....	36,353	59,179

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	.....	279,088
Gasoline	78,573	11,225	80,725	11,532	1,114,667	1,080,671
Lubricants	.....	.....	.....	.....	38,236	27,796
Coastwise:						
Fuel oil	115,468	16,495	80,558	11,508	3,361,264	3,132,951
Diesel and gas oil	.....	.....	39,763	5,680	400,852	356,476
Gasoline	93,239	13,320	.....	.....	4,031,928	4,020,796
Kerosene	.....	.....	.....	.....	284,095	210,508
Naphtha distillate	.....	.....	.....	.....	49,780	.....
Exports:						
Crude oil	.....	.....	.....	.....	494,511	59,993
Fuel oil	.....	.....	99,332	14,190	1,589,658	1,049,140
Diesel and gas oil	.....	.....	.....	.....	535,660	527,535
Gasoline	128,112	18,302	89,802	12,829	4,378,588	3,785,853
Kerosene	111,777	15,968	.....	.....	914,099	585,385
Lubricants	.....	.....	.....	.....	25,693	33,579

four wells with a good possibility of increasing work early next year. The Republic Petroleum has completed its No. 25 in the Midway Field of Kern County at 3,001 feet but failed to secure a natural flow and will consequently be obliged to put it on a compressor. This new well was finished with a 6⅝-inch liner, including 417 feet of perforated. The Belridge Oil Co. made another production test of its No. 49-35 in the North Belridge Field of Kern County but got a wet job for the third time. This project, bottomed at 5,595 feet but plugged back by stages, produced 1,450 bbls. of oil and 3,000 bbls. of water on a production test a few days ago.

Ventura Avenue

Although drilling operations are being consistently reduced in the Ventura Avenue Field, this district will continue to be an important factor in the general production situation due to the high productivity of many wells throughout the field. The enormous thickness of oil-bearing formation penetrated in this field is productive of long-lived wells with a slow decline. The Associated is working on only four wells in the Ventura Avenue Field at present and will probably effect a further reduction in drilling operations in the near future. The Shell re-entered No. 65 Taylor, a recent completion, and will clean out the hole to bottom and add another plug in an effort to exclude bottom water. This is the only well on which the Shell is working, although a new rig is going up for No. 72 Taylor. The Superior Oil Co. is making good footage with No. 6 Hartman, a new well which the company is drilling for the Bolsa Chica Oil Co., but it will probably be 60 days before it reaches a depth at which production may be anticipated. This project is being carried down in an effort to develop commercial production in the lower zone recently discovered by the Associated Oil Co.

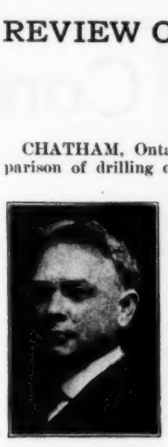
Potrero

York & Lockhart have found it necessary to clean out their No. 1 Blinn which recently revealed the probable existence of a new deep zone in the Potrero Field of Los Angeles Basin, but with this work nearing completion the well should be ready for another production test shortly at 6,710 feet. Several other former upper zone producers are being deepened in the Potrero Field and some of them will undoubtedly be carried down to the new Blinn zone. The Bellview Oil Syndicate's No. 6 Groh, a recent completion in the Santa Fe Springs Field, has failed to clean up after being on production for several days but the water content, approximating 50 per cent, is being trapped out with good success as the water is relatively free. The Continental Oil Co. has started redrilling operations on No. 1 Selover, the discovery well in the Seal Beach Field of Los Angeles Basin, and this project will be deepened in an effort to stimulate production. In addition to this work, the company is driving piles for No. 26 Selover, a new well scheduled to be started early in January.

REVIEW OF PRESENT DEVELOPMENTS IN THE OIL AREAS OF CANADA

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Dec. 5. — Comparison of drilling operations in Alberta at the present time and three years ago reveals a remarkable shrinkage in development work. Three years ago, in addition to producing wells, there were approximately 50 drilling tests more or less active in the Turner Valley Field alone, with probably as many wildcats in various potential fields in other parts of the province. At present there are 10 tests more or less active in the Turner Valley, and outside that field there are some 12 tests in other parts of the province.



To compensate for this shrinkage, the wildcats now being carried on are more intelligently planned and located and better financed than the great majority of the tests undertaken in the boom period which ended in 1929. Furthermore, the recent tests outside Turner Valley have secured results which, while not yet definitely commercial, have indicated that there is still a strong possibility of securing crude oil in commercial quantities in Alberta.

Turner Valley

The Turner Valley Field is still the only large producing area in Alberta. The major part of the production is crude naphtha from the Madison lime horizon, the naphtha being extracted by separators from the wet gas. There is a small production of light crude oil from the upper horizons. The entire field has a total of approximately 85 producing wells, though a proportion of these produce in very small quantities, or intermittently. Naphtha production runs around 2,100 bbls. a day with about 250 bbls. of light crude for the entire field. The largest individual producing well is around 220 bbls.

After the first strike in the Madison lime in October, 1924, when Royalite's No. 4 blew in, the gas from producing wells after extracting the larger part of the naphtha was burned wide open. This was primarily due to inability to control the heavy pressures. As the older wells declined new production not only maintained but increased the aggregate of the field; and from the central area, where the first discoveries were made, the producing area was extended south and east to the Home, East Crest, Mercury and Merland areas in South Turner Valley, as well as to the north.

Continued production in the older wells was marked by a much smaller crude naphtha recovery in proportion to the gas produced; and this, and the reported decline in gas pressures, led the Alberta government earlier in the year to first restrict the open flow of the field to 40 per cent, and then to set a maximum flow of 100,000,000 feet a day for the entire field. A project for pooling the various properties under unit management was also formulated, but its voluntary adoption by the various interests concerned appears to be remote.

A feature of the past two years has been the gradual withdrawal of Imperial Oil, Ltd., from active development work. This company, which drilled the discovery well, Royalite's No. 4, and helped materially to prove up and extend the producing field, has only a single drilling outfit operating in the Turner Valley. This last test is Sterling Pacific Oil Co.'s No. 2, LSD 10, Section 33-18-2w5, in what might be called the Merland area in the extreme south end of the field. Sterling Pacific's No. 2 is drilling below 5,215 feet, and its completion, within the next few weeks, will probably mark the discontinuance, for the time being, of drilling operations by Imperial Oil, Ltd.

South Turner Valley

In addition to this one Imperial test, there are five independent tests more or less active in the South Turner Valley. In the Merland area, in the far south end of the field, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, is in the next section to Merland Oil Co.'s No. 1, which proved a fairly good producer in the deep lime. The Mar-Jon test is drilling below 2,650 feet. Farther north, William Livingston and associates of Calgary, drilling on Anaconda Oil Co. acreage in LSD 5, Section 34-18-2w5, have a test which for some weeks has been standing cemented at 2,160 feet.

Some distance farther north, three tests are fairly near completion in the Mercury area. Offsetting Mercury's No. 1, a good producer, Hylo Oils' No. 1, LSD 12, Section 4-19-2w5, is drilling below 5,100 feet, in the "crooked hole" sands overlying the Dalhousie, and swabbing production of around 100 bbls. a day of light crude which comes from the Home

(Continued on Page 68)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S-T-R	Depth	Status
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	8,225	br. sh. drilling
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-35	3,450	suspended
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	producing gas
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	producing gas
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	6,912	redrilling
General Pet., No. 133 Goleta, Santa Barbara Co.	21- 4-28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	2,053	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	2,050	suspended
Bowles Oil Co., No. 140 Goleta, Santa Barbara Co.	21- 4-28	2,065	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	2,004	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	2,010	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	2,010	suspended
Bellview Oil Co., No. 159 Goleta, Santa Barbara Co.	24- 2-29	2,099	suspended
Johnson & Strickland, No. 1-A Goleta, Santa Barbara Co.	19- 4-27	4,886	wt set pipe
Sovereign Oil Co., No. 1 Quadalupe, Santa Barbara Co.	20-10-35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Pacific Finance Co., No. 1 Carpenteria, Santa Barbara Co.	Tideland	1,800	cleaning out
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Bell, H. H., No. 1 South Mountain, Ventura Co.	22- 3-21	1,730	rd. sh. drilling
Pure Oil Co., No. 1 S. F. Canyon, Ventura Co.	15- 4-21	2,591	suspended
San Pedro Oil Co., No. 2 Sespe, Ventura Co.	13- 4-21	3,743	will test
Magu Synd., No. 1 Oxnard, Ventura Co.	17- 1-21	5,225	may abandon
Graham & Loftus, No. 1 Goose Lake, Kern Co.	26-27-22	5,000	sd. sh. drilling
Wilshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	7,000	suspended
Milham Expl. Co., No. 6 Buttonwillow, Kern Co.	8-28-23	4,119	C. P. 3,723 ft.
Furman, T. H., No. 1 McKittrick, Kern Co.	22-29-21	780	sd. sh. drilling
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	26-31-24	5,380	suspended
General Pet., No. 1 Belridge, Kern Co.	30-28-21	7,350	br. sh. drilling
Wallace, K. C., No. 1 Belridge, Kern Co.	32-29-21	4,222	suspended
Rio Cal Pet., No. 1 Shale, Kern Co.	2-27-18	2,355	suspended
Wicker, Sy., No. 1 Arvin, Kern Co.	12-30-28	3,850	suspended
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,910	suspended
Osborn, Colter, No. 1 Weed Patch, Kern Co.	15-30-29	3,465	suspended
Osborn, Colter, No. 2 Weed Patch, Kern Co.	15-30-29	2,005	pump. test
Fullerton Oil Co., No. 1 Semitropic, Kern Co.	25-27-23	1,930	bl. sh. drilling
Standard, No. 1 Devils Den, Kern Co.	14-25-18	1,600	suspended
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	2,950	suspended
Signal Oil Co., No. 1 Blackwell Corner, Kern Co.	15-26-19	106	suspended
United Kern Pet., No. 1 Mojave, Kern Co.	26-10-14	1,065	suspended
Meridian Oil Co., No. 1 Mojave, Kern Co.	11- 9-15	3,910	granite?
Kendall Dev. Co., No. 1 Mojave, Kern Co.	27-11-9	880	hd. sd. drilling
Harding, J. B., No. 1 Mojave, Kern Co.	5-10-10	1,030	redrilling
Barnsdall Oil Co., No. 1 Tejon, Kern Co.	15-11-20	mtl.	building rig
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	6,025	suspended
Descanso Oil Co., No. 1 Tejon, Kern Co.	31-11-19	rig	suspended
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	6,197	suspended
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-16-23	340	sd. sh. drilling
Kent & McDonald, No. 1 Carrizo, San Luis Obispo Co.	3-32-22	2,475	br. sh. drilling
Trav-El Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-32-22	2,450	cleaning out
Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	26-31-12	3,380	cleaning out
Martin, J. D., No. 1 Edna, San Luis Obispo Co.	5-31-13	2,990	redrilling
Emerich Oil Co., No. 1 Atascadero, San Luis Obispo Co.	13-28-12	1,502	br. sh. drilling
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	1-29-12	1,650	suspended
Pacific Inland, Well No. 1 Monterey Co.	19-23-15	2,062	gr. sd. drilling
Brown, W. F., No. 1 Parkfield, Monterey Co.	15-23-14	1,051	suspended
Guess, E. B., No. 1 Monocline, Kings Co.	7-21-21	6,197	cleaning out
Byron, N. W., No. 1 Dudley Ridge, Kings Co.	32-22-20	rig	rigged up
Irma Investment Co., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,345	gas well-idle
Irma Investment Co., No. 2 Dudley Ridge, Kings Co.	7-23-20	rig	rigging up
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,635	gas well-idle
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.	15-23-20	411	rigging up
Kettleman Oil & Gas Co., No. 1-A Dudley Ridge, Kings Co.	20-23-20	1,194	gas well-idle
Valley Expl. Co., No. 1 Dudley Ridge, Kings Co.	12-23-19	1,446	plug 1,302 ft.
Valley Expl. Co., No. 2 Dudley Ridge, Kings Co.	12-23-19	1,141	shut in
Valley Expl. Co., No. 3 Dudley Ridge, Kings Co.	18-23-19	...	material
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	4,600	gr. sd. drilling
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	suspended
Tulare Basin Gas Co., Well No. 1, Kings Co.	17-23-19	rig	rigging up
Tulaco Oil Co., No. 1 Corcoran, Tulare Co.	20-22-22	rig	suspended
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-24-27	2,200	redrilling
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Ellis & Stanford, No. 1 Tulare Lake, Tulare Co.	20-24-23	1,920	cleaning out
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-27	7,694	suspended
Orinda Pet., Well No. 1, Contra Costa Co.	32- 1-3	2,120	suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15-4	1,020	hd. sd. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3- 2-10	4,750	suspended
Hilderbrandt, R., No. 1 Crows Landing, Stanislaus Co.	36- 6-7	rig	rigging up
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23-3	3,040	suspended
San Joaquin Expl. Co., No. 1 Los Banos, Merced Co.	36-10-9	..	location

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S-T-R	Depth	Status
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	7,350	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Westwood Oil Co., No. 2 Hermosa, Los Angeles Co.	6- 4-14	2,151	suspended
Baxter Pet., No. 1 Hermosa, Los Angeles Co.	5- 4-14	rig	suspended
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	2,700	suspended
Pacific Shore Oil Co., No. 1 Lawndale, Los Angeles Co.	20- 3-14	rig	suspended
Lawndale Pioneers, Inc., No. 1 Peck, Los Angeles Co.	20- 3-14	3,880	hd. sh. drilling
Wilmington Consd., No. 1 Watson, Los Angeles Co.	17- 4-13	1,012	cleaning out
Ranger Pet. Co., No. 1 Watson, Los Angeles Co.	28- 4-13	3,653	to set pipe
Avalon Park Dev. Co., No. 1 Watson, Los Angeles Co.	17- 3-13	rig	suspended
Pedro Pet. Corp., No. 1 San Pedro, Los Angeles Co.	14- 5-14	rig	suspended
Brubaker, W. O., No. 1 Van Nuys, Los Angeles Co.	11- 2-15	2,700	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27- 2-10	2,200	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2-9	2,250	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-12	1,370	suspended
Jones, W. L., No. 1 Bell, Los Angeles Co.	31- 2-12	116	suspended
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	4,902	fishing
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6- 2-11	5,011	suspended
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,919	suspended
Yellowstone Oil Co., No. 2 Alhambra, Los Angeles Co.	19- 1-13	2,015	suspended
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26- 1-17	1,004	basalt?
Caballero Estates, No. 1 Calabasas, Los Angeles Co.	23- 1-16	1,460	suspended
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	5,960	abandoned
Simi Oil Co., No. 1 Calabasas, Los Angeles Co.	18- 1-17	3,990	br. sh. drilling
Simi Oil Co., No. 2 Calabasas, Los Angeles Co.	18- 1-17	208	cable tools
Marble, Willard, No. 1 Chatsworth, Los Angeles Co.	6- 2-16	1,200	hd. sd. drilling
Superior Oil Co., No. 1 Newport, Orange Co.	27- 6-10	4,301	sd. sh. drilling
Ajax Pet., No. 1 Newport, Orange Co.	21- 6-10	6,140	br. sh. drilling
Vaqueros Major, No. 1 Tideland, Orange Co.	32- 5-11	1,022	suspended
Beck, Alfred, No. 1 Corona, Riverside Co.	8- 4-6	1,100	suspended
Alberta Oil Co., No. 1 Elsinor, Riverside Co.	35- 2-2	3,435	suspended
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8- 4-6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25- 1-2	2,392	fishing
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	623	sd. sh. drilling
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-11-16	516	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13-4	2,519	suspended
Borderland Oil Co., No. 1 Point Lomas, San Diego Co.	30-16-3	5,124	suspended
South Bay Oil Co., No. 1 Border, San Diego Co.	31-18-2	1,243	suspended
Itasca Pet. Co., No. 1 Mesa, San Diego Co.	23-18-1	1,640	hd. sd. drilling
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 6-8	2,250	suspended
Oklahoma Oil Corp., No. 1 Palms, San Diego Co.	25-11-8	510	cleaning out

Pipe Line Construction News

LINE TO MILWAUKEE HAS BEEN POSTPONED

By B. E. V. Luty

PITTSBURGH, Pa., Dec. 7.—Placing of the pipe order for the Milwaukee extension of the Texas to Chicago natural gas line has been postponed. The line is to be laid by the Continental Construction Co. from Geneseo, Ill., near Rock Island, to Milwaukee, involving about 170 miles of 20-inch, about 25,000 tons. When ordered, the pipe will be for very prompt delivery as the line is to be rushed to avoid bad weather. There appears to be no other large line pipe business actually before the pipe mills but many projects are in the air and if financing conditions become at all favorable a large amount of work is expected for next season.

Demand for casing and other oil country goods has improved and is quite noticeably better than three or four weeks ago. Demand is chiefly from Texas, where winter weather is not a factor.

Standard or merchant pipe has been in about the same demand as for three or four months past but is probably in line for a little seasonal falling off to the end of the year. Jobbers' stocks have been low right along but are generally subject to a little further curtailment against annual inventory particularly as distribution requirements naturally taper off somewhat.

Prices on all tubular goods are reported to be held rigidly all along the line.

Steel ingot production decreased slightly last week, being at around 28 per cent of capacity, against about 29 per cent maintained for four weeks. There have been slight decreases in requirements of various industries, while some of the structural fabricating shops are now taking materially less steel and the automobile industry's requirements have increased somewhat, though very much less than was being predicted a month ago.

The decrease in steel production is likely to continue, this being a regular seasonal experience, to be particularly marked in the last week or two of the year. While stocks everywhere have been low right along there is room for a little further curtailment of steel in buyers' hands and of manufactured steel products, and some consuming factories will close for short periods.

The general steel price situation has been developing a few weak spots after several months in which the whole price structure was rigid. In Chicago territory plates and shapes are easier, being now quoted at 1.50 cents to 1.70 cents, Chicago, against 1.70 cents formerly. Bars appear to hold at the old price of 1.70 cents. In the Pittsburgh market plates and shapes have been subject to concessions right along while the open market holds at 1.60 cents, and bars seem to be rigid at that price. In the south there is increasing shading in sheets, the Birmingham base being almost entirely nominal. Northern mills have been trying to sell in the south and the southern mills resent this, showing a determination to make such prices as will shut northern mills out completely from territory anywhere near Birmingham or beyond, as in Texas. Recently strips declined $1 a ton on hot rolled and $2 on cold rolled.

These developments are quite out of line with expectations of a few months ago that mills would be able to seek higher prices on account of the losses their quarterly financial statements have been showing. It is now altogether improbable that attempts will be made to advance any prices for first quarter with the exception of nails and cognate wire products, and an announced advance there would be chiefly a means of fully establishing present prices, which represent $2 advance over prices at which jobbers stocked up.

ELECTRICITY HAS BIG PART IN PIPE LINE CONSTRUCTION AND OPERATION

By W. C. Dreyer

Petroleum Engineer, Westinghouse Electric & Manufacturing Co.

The pipe line branch of the petroleum industry has been expanding rapidly. Successful use of supervisory control for pipe line stations is probably the most significant application of electrical equipment made during the year. The refining branch of the industry has made considerable progress improving efficiency of units, working nearer to temperature limits and lengthening time of unit operation, thus improving operating conditions and reducing operating costs. Increased use of explosion resisting equipment is probably the most noticeable trend evident during the year. The production branch of the industry has been seriously studying the questions of drilling economies and pumping costs, segregating and studying costs and power losses.

Pipe Line Pumping

The pipe line pumping industry is one of the few of the country which has maintained and increased its activity during the past two years. The growth of oil and gas lines has been phenomenal and the introduction of gasoline pipe line pumping is opening up an entirely new field. During an expansion of this sort many new problems arrive and new features are introduced as possible solutions. However, the most significant electrical developments were introduced as possible means of effecting economies and improving operation of equipment already generally used by the industry.

The importance of the successful application of supervisory control to pipe line pumping stations cannot be overemphasized. The benefits of centralized control and the economies of operation effected by this system of control are known to the industry so it is reasonable to suppose that a number of pipe lines will now make use of it.

The Texas Empire Co. made an installation at its Sand Springs station, located at Sand Springs, Okla., early in 1931. This installation has proved the suitability and is demonstrating the dependability of supervisory control for this service.

The Sand Springs station is controlled from the Texas-Empire office in Tulsa, a distance of about 15 miles, over two wires. The maximum distance at which a station can be controlled by supervisory depends upon the resistance of the control wires. Using Standard No. 13 B & S copper wire this distance is about 200 miles. A pipe line 400 miles long can be controlled from one station located at the center. All of these stations may be operated over two control wires, each station being tapped onto the two wires but is operated individually from the central station.

The supervisory control equipment used is exactly similar to that employed by central stations and railway systems. It is capable of controlling all operations of the pipe line station such as selecting units, starting them, stopping them and transmitting pressure readings. In addition to the usual control equipment for the motors it is necessary to equip the station with several motor operated valves, special pressure gauges and various automatic safety devices which shut down the station in case of fire, oil leakage, hot bearings or other accidents.

On electrically operated pipe lines it is sometimes desirable to vary the pressure at each station. This may be done in a number of different ways. The Pure Oil Co. chose a simple, effective way of doing this by installing a centrifugal pumping unit at each station driven by a variable speed wound rotor induction motor.

Welding is now generally used in pipe line construction. Arc welding has been extensively used in the construction work done this past year but as yet automatic welding heads have not been applied. Attempts have been made to devise some scheme for using automatic welding but the difficulties of handling pipe without the use of equipment which is not easily transportable, have not yet been overcome. It is natural to suppose that eventually some method of automatic welding will be used.

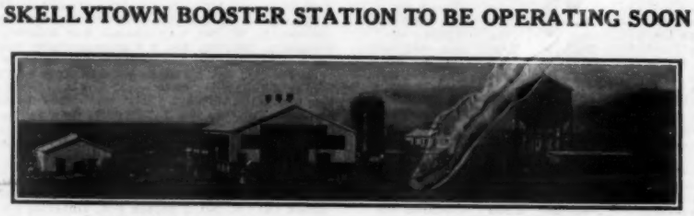
TO CONSOLIDATE SUITS ON PIPE LINE LAW

AUSTIN, Tex., Dec. 7.—Efforts are being made by attorneys to consolidate the seven injunction suits filed by gas pipe line operators in federal court attacking the new state common carrier pipe line law as it relates to natural gas, so that a single test case may be tried in the Eastern Texas federal district court.

Assistant Attorney General Fred Upchurch, representing Attorney General Allred's department in the case, announced he has been notified at least two more suits will be filed. The present temporary injunctions granted on application of the gas and pipe line companies is returnable December 14, but there was no prospect of trial in the cases, Mr. Upchurch was informed, until after January 4, when the Brock-Lee test suit is tried involving validity of the common purchaser-common carrier law as it relates to petroleum.

Some of the suits involving the pipe line law as to natural gas were those filed by Cities Service Pipe Line Co., Panhandle Eastern Pipe Line Co., Texas Interstate Pipe Line Co., and the North American Pipe Line Co.

SKELLYTOWN BOOSTER STATION TO BE OPERATING SOON



The Northern Gas & Pipe Line Co.'s booster station at Skellytown, Tex., will be in operation, according to announcement, about December 15. This is a 3,000 horsepower combination plant, gathering gas from the Skellytown Field and boosting it northward to the company's 24-inch line which transports gas from the Texas Panhandle to points in Iowa, Nebraska and Minnesota.

HEARING AT OLYMPIA ON PIPE LINE PROJECT

An Associated Press dispatch reports a Department of Highways hearing at Olympia, Wash., on an application for a natural gas pipe line right of way was featured by an encounter between Milton S. Hurwitz, Seattle, secretary of the Northwest Oil & Gas Association, and D. E. Lamb, president of the International Utilities Corp., applicant for a pipe line right of way along the Pacific highway from Vancouver, Wash., to the Canadian border.

The hearing was held by the department to obtain details of the applicant's program. Lamb said his company contemplated a $30,000,000 natural gas distribution project, with a main pipe line tapping natural gas fields in Wyoming, Montana and Idaho. The company proposes to market its product in the Pacific Northwest states and British Columbia.

Director S. L. Humes continued the hearing until after other states have acted on the applications and a complete statement of the company's financial status has been filed with the department.

Mr. Hurwitz had told the department the Northwest Oil & Gas Association was opposed to the granting of the franchise on the ground the company had not revealed its ability to finance the project.

Lamb told the highway department his company would be financed through a bond issue to be underwritten by an eastern investment banker.

SKELLY TO CONSTRUCT NEW LINE IN KANSAS

The Skelly Oil Co. announces it will construct an 8-inch pipe line from the company's refinery in Eldorado, Butler County, Kansas, to its pumping station on the Wilson lease at Valley Center, Sedgwick County. The line will take oil piped from the Ritz-Canton Pool, and will be from 26 to 30 miles in length. The contract has been awarded to Truman-Smith Construction Co. The construction work is expected to start in the near future.

The line will connect with Skelly Oil Co.'s pipe line which now extends from Valley Center, north to McPherson County, where the Ritz-Canton Pool is located. Under the present arrangement the oil from the Skelly Oil Co.'s line, when it reaches Valley Center, is switched to the Empire Oil & Refining Co. pipe line and transported to Eldorado. The new pipe line will increase the outlet for the Ritz-Canton Field by giving the Skelly Oil Co. a direct pipe line from the field to its refinery.

NASHVILLE TO GET GAS

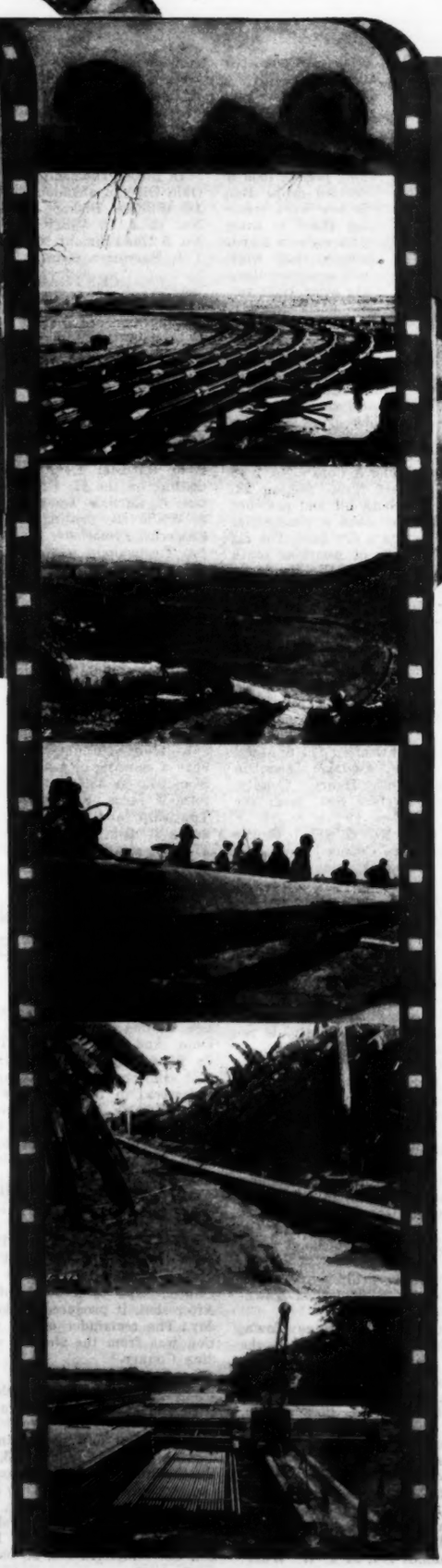
The Missouri-Kansas Pipe Line Co. has made final arrangements to supply Nashville with natural gas, and this will mean a greatly increased consumption from the western part of Kentucky. Kentucky Natural Gas Co., with headquarters in Owensboro, will furnish the production. The Missouri-Kansas interests some time ago completed a gas line to Nashville.

GAS FOR SAN DIEGO

LOS ANGELES, Calif., Dec. 5.—San Diego city officials are in San Francisco for the conference which they hope soon will result in natural gas for San Diego.

The officials plan to discuss with the State Railroad Commission and Lester S. Ready, consulting engineer, the best procedure for obtaining natural gas, in view of the San Diego Consolidated Gas & Electric Co.'s recent conditional offer to bring the fuel there.

PICTURE *after* PICTURE



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Eighteen New Central Ohio Operations

Unusually Good Oil Well Completed in Washington Township, Gibson County, Indiana. Six Completions Reported From Kentucky Fields

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Dec. 7.—Completed work was light in all divisions of the Central West Field. Even the Central Ohio area that has shown the bulk of completions for a long period, took a decided drop. But in new work starting there is little change which means that work will continue along for some time yet, or until the extreme cold weather prevails.

In the Old Lima Field of northwestern Ohio, C. A. Peavey's No. 9 on the Samuel H. Vore farm, Section 12, Bath Township, Allen County, showed an initial production of 15 bbls. from the Trenton limestone.

In Wyandot County, Tymochtee Township, McPheron, Miller & Cook's No. 2 on the Bowman-Billhart farm, Section 21, had a showing of both oil and gas, but after shot failed to make a commercial producer and goes as a dry hole. The rig was skidded a couple of locations south along the south shore of the Sandusky River. In this same county, R. W. Kurtz and others found a gas well in No. 1 Elmer E. Moser farm, Section 12, Ridge Township.

Lee Booth drilled a test on the Walter Richardson farm, better known as the Landis farm, Section 7, Mississinewa Township, Darke County, the well showing around 100,000 feet. No. 2 same farm, is drilling.

Lake Shore Southwestern Oil & Metal Co.'s No. 1 M. F. Dietrick farm, in Pleasants Township, Henry County, showed around 250,000 feet, from the Trenton at 1,551 feet.

Wiser Oil Co.'s No. 6 Grant Geiger farm, Section 13, Cessna Township, Hardin County, showed some gas and a fair oil showing in the Trenton at a total depth of 1,372 feet, where a fishing job developed. On the same farm, but in Section 12, the Wiser Oil Co.'s No. 7 well, produced an initial of 10 bbls. and No. 8 is now drilling.

Ottawa County

The Peninsula Oil Co.'s last well on the J. P. Caigney property, Lot 8, Catawba Township, Ottawa County, is reported good for 8 bbls.

A. A. Lauber drilled in a small gas well on the J. Stols farm, Section 33, Butler Township, Mercer County, and in Center Township, same county, Edward Anderson and others abandoned Nos. 1 and 2 John Fisher farm, Section 12.

In Cynthian Township, Shelby County, south of Lima, the Eilerman Oil Co. is drilling a second test on the F. J. Bocher farm, Section 26, and Rucker Oil Co. has a rig on the William Barhorst farm, Section 25.

John Doblinger is drilling No. 1 S. Betts farm, Section 8, Monclova Township, Lucas County.

In Hancock County, Portage Township, the Ohio Oil Co. abandoned the following old wells: Nos. 5 and 6 F. Twining farm, Section 27; No. 8 G. A. Mitchell farm, Section 34; Nos. 1, 3, 4, 6, 9, 11, 15 on the H. W. Stoker farm, same section; No. 7 Mancy E. King farm, same section; Nos. 1 and 5 James M. Steep, same section; Nos. 1, 2, 3, 4, 6 and 7, Maranda J. Wolfe farm, Section 32; Nos. 1, 2, 3, 4, 5, 6 and 7 I. W. Cooper farm, Section 33, and Nos. 1, 2, 3, 4, 6, 7, 11 and 12. R. A. Cooper farm, Section 32. In Allen Township, same company abandoned No. 11 I. W. Whetston farm, Section 13; No. 9 Mary Decker farm, Section 25; No. 5 Dorney & Decker farm, Section 26, and No. 13 James Steen farm, same section. In Liberty Township, same company pulled out Nos. 4, 5 and 6 Mary A. Grubb farm, Section 4.

In Bloom Township, Wood County, the Ohio Oil Co. abandoned Nos. 1, 11 and 18 William Bishop farm, Section 21; No. 13 J. D. Wiley farm, Section 19; No. 5 Elias Simont No. 2 farm, and No. 1 J. Barringer farm.

CENTRAL OHIO

Only 7 completions were reported from the Central Ohio Field; 9 new locations were staked and 9 wells started spudding, a total in new work of 18. Two additional completions were made in Perry County.

In Lorain County, McMilland and others have a fair gas well in No. 3 on the William M. Flooz farm, Lot 71, Columbia Township, in the Clinton lime from 2,701-09 feet. Same parties are drilling on the H. F. Eggers farm, Section 6. Carliale Township, and Ramage & Willis are drilling their test on the Frederick Armbruster farm, Lot 89, Grafton Township.

In Medina County, Chatham Township, Harris & Behn's No. 20 on the Gilman Brothers farm, Lot 20, showed only a very light gas volume in the Clinton from 2,859-66 feet, and called a dry hole.

In Ashtabula County, the Dome Oil & Gas Co.'s test on the M. and E. Marszalek farm, Lot 214, Jefferson Township, was dry in the Austinburg formation from 2,219-24 feet.

In Holmes County, Wiles and others have a showing of gas in the Berea sand from 542 to 550 feet on the Christiam Sprang farm, Section 27, Washington Township, and will give it a shot, in hopes of making a commercial producer. The Berea is badly broken in this test.

In Cuyahoga County, L. T. McGrath is shut down at 2,375 feet on the John E. Raible farm in Rockport Township.

In Summitt County, White & Bacon have decided to drill their test on the Kinfield-Thornton farm, Lot 47, Copley Township, to the Clinton lime. This well had both gas and oil showings in the Newburg sand from 3,240-60 feet. Arthur & Reeves made a location on the N. Kandle farm, Section 36, Green Township, same county.

In Muskingum County, Brush Creek Township, the Pure Oil Co. made a location for No. 4 on the Charles Enoch farm, Section 3. Engle and others' test on the Perdew farm, Section 4, same township, which was last reported at a depth of 4,075 feet, is to be made a deep test.

Stark County

In Stark County, the Ohio Fuel Gas Co. has a good gas well in No. 1-5,560 Henry W. Stockert farm, Section 16, Jackson Township. Brendall and others struck a good gas well in No. 1 J. A. Lauby farm, Section 12, same township, in the second Clinton lime formation from 4,483-95 feet. Fulton Oil & Gas Co. also hit a good gas producer in a second test on the Henry C. Rudy farm, Section 6, same township, in the Clinton from 4,180 to 4,215 feet. East Ohio Gas Co. has a fairly good gas well in No. 1 Eva M. Sailer farm, Section 16, same township, in the Clinton from 4,243-85 feet. Same company has a rig in for No. 4 T. K. Harris farm, Section 26. Brendall and others are drilling No. 1 William Zuber farm, Section 24, and have staked locations for No. 3 J. C. Steiner farm, Section 16, also a location for No. 3 William Haymaker farm, Section 23. William Pfeiffer is drilling on the Eli Snyder farm, Section 11, Jackson Township, and the Athens Oil & Gas Co. is drilling on the M. Kisner farm, Section 10, same township.

In Fairfield County, Richland Township, Perry Sturm and others are drilling No. 1 Mary E. Kerr farm, Section 32.

In Knox County, Hulse-Kundtz, Inc., made a location for No. 6 on the J. H. Colopy farm, Section 23, Union Township.

INDIANA

An unusually fine oil producer was brought in by the Big Four Oil & Gas Co. in No. 5 on the C. T. Sloan farm, SW Section 18, Washington Township, Gibson County, having an initial production of 100 bbls. Wells of this size are out of the ordinary these days anywhere in the state. This well should start more activity in that area. Gibson County still has much undeveloped territory as have adjoining counties.

A. E. Daviess and others' test on the G. C. P. Frank farm, SE Section 27, Washington Township, Pike County, and in the south edge of the town of Petersburg, at a total depth of 1,190 feet, developed a dry hole. The location is 500 feet from the south line and 500 feet from the east line of the farm. C. E. Wommer is drilling No. 3 on the Morrison Sisters farm, Section 30, same township, and Charles C. Taliaferro, Jr., is drilling No. 2 on his own farm, same township. Charles L. Diver and others are drilling on the Glendora Robling farm, Section 24, Logan Township, same county.

Ben D. Ruble is drilling No. 1 on the Home Building & Loan Co.'s land, SE Section 27, Harrison Township, Daviess County.

J. E. Young and others drilled in a dry hole in the southeast corner of the Floyd Wilson farm, SE Section 3, Harrison Township, Knox County, at a total depth of 1,465 feet.

ILLINOIS

Only one completion was reported from Illinois, the Wells Oil Co.'s test, 200 feet from the north line and 1,000 feet from the east line of the Enoch Wesner farm, SW Section 4, Montgomery Township, Crawford County, which was dry at 1,090 feet. O. R. Oil & Gas Co. is drilling No. 8 William Akeman farm, Section 2, Prairie Township, same county.

Big Four Oil & Gas Co. abandoned No. 27 on the E. J. Seed farm, in the NW Section 22, Dennison Township, Lawrence County, and is now drilling No. 36 well on the same farm.

In Sugar Loaf Township, St. Clair County, Johnson Oil Co. is drilling on the E. H. Smiley farm, near O'Fallon.

Many old producers are being abandoned in the St. Clair County area in Sugar Loaf Township. H. & M. Operating Co. abandoned Nos. 1 and 2 F. H. Weisenborn farm; No. 1 O. F. Smallenburger farm; No. 1 Fred Meyer; No. 1 Heller lots; No. 1 M. A. Bostwick lot; No. 1 Smith-Criswell lot; No. 1 C. S. Bryant lot; No. 1 Nolty & Goley lot; No. 1 O. L. Dashner lot; all in Section 21, Sugar Loaf Township. F. N. Mossman abandoned No. 1 and 2 Nevada Cooper lot, and T. W. Stehlin No. 1 same section, while Lon Coleman abandoned No. 1 Tom Gardner property, in East Carondalet area.

MISSOURI

Webster Oil & Gas Co. drilled a dry hole on the William Mild farm, Section 16, Central Township, St. Louis County, Missouri.

KENTUCKY

Six completions were reported from the Kentucky Fields, two being producers with an initial of 65 bbls., one gas and three dry holes, and if weather conditions will permit, there will be more activity in new work than at any time during the past few months.

The best well was drilled by Cameron,

(Continued on Page 103)

NEW DRILLING FOR OIL REPORTED IN SOUTHEAST OHIO DISTRICT

By Staff Correspondent

PITTSBURGH, Pa., Dec. 7.—Some new drilling for oil is noted in Southeast Ohio, and in Southwest Pennsylvania. In West Virginia most of the drilling is still confined to the gas areas. During the week, in the three districts of the eastern fields, 5 new oil producers, with an initial production of 75 bbls., and 12 new gas wells were reported. In addition, there were also 7 dry holes reported.

SOUTHEAST OHIO

Of the four producers completed in Southeast Ohio, the largest was in Muskingum County. In the SE Section 6, Hopewell Township, M. F. Whitehill drilled No. 5 on the Boyer farm in the Clinton sand to a depth of 3,339 feet. After shot, it produced 40 bbls. the first day. The remainder of the new production was from the shallow sand of Medina County.

In Medina County, and in the NE Section 6, Harrisville Township, F. Barnhard and others completed a second test on the J. W. Funk farm. It made 25 bbls. the first day after being shot at a depth of 418 feet. On Lot 3, Section 13, Chatham Township, the Oko Oil & Gas Co. completed No. 50 on the Henry Essig farm at a depth of 400 feet. It produced 6 bbls. the first day after shot. On Lot 4, of the same section, E. R. Edson & Son Co. completed No. 28 on the George W. Packard lease No. 1 at 400 feet. It is showing for about 2 bbls. a day after shot. On Lot 20, Section 16, same township, the same company drilled No. 30 on the Morris A. and Eva Franks farm to a depth of 548 feet and through the Mitchell sand. It proved to be a dry hole.

The largest gas well for the week in Southeast Ohio was the test of the Permian Oil & Gas Co. and others on the C. T. McKee farm in SW Section 13, Olive Township, Noble County. It was completed in the Berea grit at a depth of 1,629 feet and is showing for about 180,000 feet a day. The top of the sand was found at 1,572 feet and the bottom at 1,586 feet with 43 feet of pocket lower. In Perry County, the Mid-East Gas Co. drilled a test on the E. Wilkins farm, NE Section 17, Madison Township. It is a Clinton sand well at a depth of 3,140 feet and is showing for 125,000 feet of gas a day.

In Guernsey County, Bay and Milhone completed a test on the Emma B. Shriver farm, NE Section 17, Jackson Township. It is showing for a small gas well from the Berea sand at a depth of 1,131 feet. In Carroll County the Home Co. drilled a test on the Scott heirs farm in Section 30, Orange Township. The Berea was found dry at a depth of 1,225 feet.

(Continued on Page 76)

Personal Paragraphs About Oil Men

F. V. Eaton of the Walda Oil & Gas Company of Osage, Wyo., has returned to Pennsylvania to spend the winter.

* * *

Robert McCoy, Jr., sales manager, Frick-Reid Supply Corporation, has gone to Texas on an extended trip.

* * *

George M. Dunaway, chief clerk in the Caney office of Prairie Pipe Line Company, has recovered from a severe illness.

* * *

Ernest K. Brown of the Standard Oil Company, Casper, Wyo., has been called to Boise, Ida., by the serious illness of his father.

* * *

Fred Kistler, president of the Fred Kistler Oil Company, and Miss Flossa Thomas of Woodward, Okla., were married there recently.

* * *

Dr. Murray Stuart, geologist, has returned to London after spending several weeks in the oil fields of northern Germany.

* * *

William T. Painter, formerly with the Midwest Refining Company in Casper, Wyo., but now a resident of Dixie, Ida., visited Casper friends.

* * *

S. H. Casteel, geologist of Fort Worth, addressed the North Texas Geological Society at Wichita Falls on "Geology and Recent Developments in West Texas."

* * *

P. H. Talbert of the Hughes Tool Company is at home recuperating from an operation for appendicitis performed recently at the Hollywood, Calif., Hospital.

* * *

Mr. and Mrs. D. O. Gray of Osage were in Casper, Wyo., last week. Mr. Gray is a drilling contractor in eastern Wyoming and has land interests in the Osage Field.

* * *

Hale Soyster, former Californian, now in charge of the U. S. Geological Survey's field office at Casper, Wyo., was in Los Angeles on a visit with his brother, M. H. Soyster, recently.

* * *

John H. Meyers, manager industrial sales, the American Hammered Piston Ring Company, Baltimore, Md., is on a trip through the Southwest. He stopped in Tulsa for a few days.

* * *

R. S. McFarland of Tulsa, who was in New York and Montreal on business all of the past summer, has returned to Tulsa from an inspection trip through East Texas.

* * *

Dr. Frank Carney, professor of geology and geography of Baylor University of Dallas, Tex., addressed the Panhandle Geological Society on the archeological expedition he made into the Spanish and French Pyrenees in 1929.

* * *

John Moran, who has been with the law firm of Hayes & Richardson of Oklahoma City, has been made a member of the Denver legal office of the Continental Oil Company. He is a brother of President Daniel J. Moran of the Continental Oil Company.

* * *

Reeves Holmes, engineer for the Sun Oil Company, was married to Miss Lila McGinty of Terrell, Tex., Thanksgiving Day at Tyler, Tex. Mr. Holmes is a graduate of Oklahoma University. Mr. and Mrs. Holmes will make their home at Tyler, Tex., where Mr. Holmes has his headquarters.

* * *

The Key Boiler Equipment Company of East St. Louis, Ill., announces the appointments of M. J. Masel as manager of its Tulsa office and J. Frank Ward, Jr., as its special representative attached to that office. M. J. Crowe, formerly in charge of the Tulsa office, will cover the general refinery field from the East St. Louis headquarters.

A. M. Bowman of the sales department of the Parkersburg Rig & Reel Company is making a trip through East Texas and Louisiana.

* * *

R. F. Fike, head of the automotive transport department of the Mid-Continent Oil & Gas Company, Tulsa, is visiting St. Louis and Chicago.

* * *

F. H. Pierson, deputy supervisor, will be in charge of the consolidated offices of the Dallas and Van offices of the oil and gas division of the Texas Railroad Commission in the Tower Petroleum Building, Dallas, Tex.

Men of the Industry

Lloyd F. Bayer

Lloyd F. Bayer, vice president of the Associated Oil Company, was born in Mount Vernon, N. Y., October 26, 1893. Upon graduation from the Mount Vernon high school in 1910, he entered Stevens Institute of Technology, Hoboken, N. J., from which he graduated in 1914 with the degree of mechanical engineer. During summer vacations Mr. Bayer was employed by the Westchester Lighting Company in Mount Vernon on inventory and valuation of electric pole lines and equipment, and estimating cost of new work. Upon graduation he joined the New York & Queens Electric Light & Power Co., Long Island City, N. Y., as engineer. Experience there was in connection with transmission and distribution of electricity at higher voltages.

In October, 1916, Mr. Bayer entered the employ of the Tidal Gasoline Company, Tulsa, a newly formed subsidiary of the Tide Water Oil Co. In 1920 the name of this company was changed to Tidal Refining Company. Mr. Bayer was successively chief engineer, manufacturing manager and early in 1925 was promoted to vice president and general manager of Tidal Refining Company. This company is engaged in the refining of crude oil and the manufacture of natural gasoline from casinghead gas, with refineries in Drumright, Okla., and Burkburnett, Tex., and with gasoline plants in Kansas, Oklahoma and Texas.

Following the formation of Tide Water Associated Oil Company as a holding company of the Tide Water Oil Company and Associated Oil Company, Mr. Bayer was transferred to San Francisco as vice president of the Associated Oil Company in charge of the manufacturing division. His responsibilities include supervision of all manufacturing activities. He is a member of the executive committee and board of directors of the Associated Oil Company.

B. B. Williams, president of the Cooper-Bessemer Corporation, Mount Vernon, Ohio, visited Tulsa last week.

* * *

Meryl Mannschreck of the Mid-Continent Petroleum Corporation has been transferred from Longview, Tex., to Midland, Tex.

* * *

L. Ralph Johnson, vice president of the Johnson Oil Refining Company of Cleveland, Okla., spent several days last week in Chicago.

* * *

L. A. Marquiss, representing the Atlas Powder Company, Joplin, Mo., called on oil company purchasing agents in Tulsa last week.

* * *

M. A. ap Rhys Pryce, late chief production manager of the Caribbean Petroleum Company, recently arrived in England from New York.

* * *

J. W. Newman of Covington, Okla., is the new superintendent of the Arondale gasoline plant, near Hominy, in Osage County, of the Sinclair Oil & Gas Company.

* * *

Mark L. Requa, who was general director of the oil division of the United States fuel administration during the war, was in Tulsa last week for a brief visit.

* * *

Dana Hogan of Los Angeles, Calif., and J. Elmer Thomas of Fort Worth, Tex., are making an extensive automobile tour of Europe, visiting the oil field regions wherever possible.

* * *

M. J. Dugan, an official of the Utah Southern Oil Company, visited in Calgary recently and made a trip of inspection to the wildcat well on Keho Lake structure which is being drilled by the Hudson's Bay Oil & Gas Company with which the Continental Oil Company is affiliated.

* * *

George W. Andrew of the Indian Refining Company, Lawrenceville, Ill., and P. C. Andrews, independent operator of Vincennes, Ind., are making a trip through the oil fields of Texas, especially the East Texas fields, and visiting old friends in the industry in Texas.

* * *

Frank Schneider, production superintendent of the Tidal Oil Company, is moving from Fort Worth, Tex., to Midland, with office headquarters at Crane City. Mr. Schneider is in charge of production in New Mexico and Texas, except the East Texas Field. D. T. Legan is superintendent in the East Texas district.

* * *

R. B. Pringle, vice president and general manager of the Mid-Continent division of the Tidal Oil Company, and J. R. Gahan, vice president and division manager of the company, are making a trip to East Texas. G. R. Barton, vice president and general manager of the Tidal Refining Company, Tulsa, accompanied Mr. Pringle to Fort Worth, Tex.

* * *

Chester M. Gardiner, who has been laid up for some time due to a nervous breakdown, is again enjoying good health and has opened up offices at 1121 Security Building, Long Beach, Calif. He will specialize in petroleum, geological and valuation engineering problems. Mr. Gardiner was formerly manager of the valuation engineering department and assistant chief geologist for the California Petroleum Corporation.

* * *

W. O. Calkins, in charge of the Chicago telegraph office of the Standard Oil Company of Indiana, and until a year ago a resident of Tulsa, will complete 10 years' service this month. Mr. Calkins has charge of the dispatching and handling of telegrams over the 8,018 miles of private wire extending from Chicago to Houston, via Kansas City and Tulsa, and from Chicago to Casper, Wyo., via Kansas City. Exactly 4,970 miles are on Stanolind Pipe Line Company poles.

Natural Gas Industry Developments

PRODUCING HELIUM OF UNUSUAL PURITY

WASHINGTON, D. C., Dec. 7.—The production of several hundred feet of helium that is 99.96 per cent pure is announced by the U. S. Bureau of Mines. The work was performed in the Cryogenic laboratory at the Amarillo, Tex., helium plant. Although the production of helium of this unusual purity is still in the experimental state, it is of interest to know that the amount in question was obtained at the rate of 50,000 feet per day, and that it might be safe to state that the method bears some promise of commercial application.

Previous to the operation of the Amarillo helium plant, the average purity of helium obtained by the Army and Navy did not exceed 96 per cent. However, the helium produced during 2½ years of operation at Amarillo has averaged better than 97.8 per cent and at no time during the present fiscal year has it dropped below 98 per cent.

As an indication of what this purity means to the Navy's airship Akron, it might be pointed out that an increase in purity of helium of as much as 1 per cent increases the useful lift of the ship by approximately two tons.

LONE STAR ORDERED TO PRODUCE BOOKS

An order demanding that the Lone Star Gas Corp., Pittsburgh, Pa., produce books and records before the Oklahoma State Corporation Commission in the Lone Star Gas Co. rate hearing was issued by the commission Thursday.

The order indicated the commission would attempt to force the corporation, which is holding company of the Lone Star Gas Co., to produce the records, which it thus far has declined to do.

The Lone Star subsidiaries serve 26 cities in Oklahoma. Several hearings have been held in the attempt to adjust the gas rates.

The commission announced employment of E. B. Black, Kansas City, as special engineer to aid in the next hearing.

K. F. Griffith, vice president and general counsel of the Lone Star, recently told the commission it had no jurisdiction over the Lone Star Gas Corp., a foreign corporation.

RECEIVERS APPOINTED FOR UNION GAS CORP.

KANSAS CITY, Mo., Dec. 5.—Receivers for the Union Gas Corp., which has 1,500 miles of pipe line and serves 15 cities in southeastern Kansas, have been named in the Kansas federal court by Judge John C. Pollock. The holdings of the company are estimated at about $8,000,000. The receivers were appointed on the application of several stockholders who alleged in their petition that the corporation was dissipating the funds of the company in paying unsecured debts while the interest obligations and sinking funds on outstanding bonds were left unpaid.

Paul R. Johnson, president of the company, and Thomas Wagstaff, a lawyer, both of Independence, Kans., were named receivers. The firm of Morrison, Nugent, Wylder & Berger of Kansas City, Mo., was named solicitors for the receivers.

The suit was brought by A. L. Berger, representing Margaret Graham and other bondholders of Independence, Kans.

An action for receivers was brought simultaneously with the Kansas action in the federal court in Delaware, the state in which the company was incorporated. Receivers appointed by the Delaware court were Donald Stewart of Independence and Col. Edmond Mitchell of Wilmington, Dela.

The receivers were appointed on the application of the American States Securities Corp. of New York. The Union company consented to the receivership.

Gas service and pipe line service of the company throughout its territory in southeastern Kansas and Oklahoma will not be disrupted by the receivership.

The Union Gas Corp. operates the gas distributing systems in Coffeyville, Independence, Fredonia and Caney, Kans., and 15 other towns in Kansas and Oklahoma. It serves a population of approximately 100,000. The company is a subsidiary of Union Gas Utilities, Inc., of Grand Rapids, Mich.

LANDER RATE HEARING

CASPER, Wyo., Dec. 5.—Wyoming state board of equalization will open a hearing in Lander, Wyo., on December 9 on gas rates charged in the community. The hearing is a protest against the present rate which alleges that the rate schedule is discriminatory and unfavorable to the users of small quantities of gas.

CONTRACT AWARDED FOR TEXAS APPRAISAL

AUSTIN, Tex., Dec. 7.—Appraisal of properties of the Lone Star Gas Co. to determine the rates for gas delivered at city gates will be started within the next few weeks under a contract awarded by the Texas Railroad Commission to Hawley, Freese and Nichols of Fort Worth, consulting engineers.

The contract was awarded on a per diem basis with a maximum of $40,500. The appraisement will require several months.

Numerous cities have complained the rates charged by the Lone Star Gas Co. for gas delivered to the city's gates was too high and that valuations placed on its properties by the company for rate-making purposes were excessive. The company values its properties at $72,000,000.

Ordinances reducing the gas rates have been passed by several cities, but have been suspended through appeal to the Railroad Commission, the appealing companies posting bond to indemnify consumers against loss should the commission hold the rates charged were excessive.

A large portion of the gas handled by the Lone Star Gas Co. is distributed to consumers through subsidiary companies.

The appraisal will include valuation of 4,000 miles of transmission and gathering lines, producing properties, compress and measuring stations and buildings.

MILLION FOOT WELL AT RICH HILL, MO.

RICH HILL, Mo., Dec. 5.—A 1,000,000-foot gas well has been brought in at the Ackerman farm 8 miles west of Rich Hill. This is the fourth well drilled on the farm by the Bourbon Pipe Line Co. and all are producing from 200,000 to 1,000,000 feet daily.

This company now is laying mains in Rich Hill and will turn the gas into them within 10 days. It had planned, when the franchise was granted, to bring the gas from Mapleton, Kans., but now are finding ample gas here to supply Rich Hill and Hume.

Rich Hill was supplied with Missouri natural gas 20 years ago, but due to poor equipment it was unsatisfactory. The old field is now being opened by a company with modern equipment.

WEST TEXAS RATES ARE TAKEN TO COURT

ABILENE, Tex., Dec. 7.—Litigation between the city of Haskell and the Stamford & Western Gas Co., subsidiary of the Lone Star Gas Corp., will be heard in federal court here Friday, December 11.

The gas company's plea against the city was heard at Fort Worth by Judge James C. Wilson, the court granting a temporary order restraining the city from reducing gas rates or from interfering with the company in the establishing of a temporary higher rate, and the city was instructed to appear December 11 and show cause why the order should not be made permanent.

Recently the Haskell city council adopted an ordinance reducing the Stamford & Western's rate to 50 cents per 1,000 feet. The present rate is 75 cents net for the first 25,000 feet, domestic use, and 65 cents for the excess.

The Abilene courtroom probably will be the battleground for a number of West Texas cases involving gas rates. The city of Eastland has been taken into court here by the Community Natural Gas Co. and attorneys for the company have announced the same sort of action against a group of other cities.

THERM UNIT BANNED BY INDIANA OFFICIALS

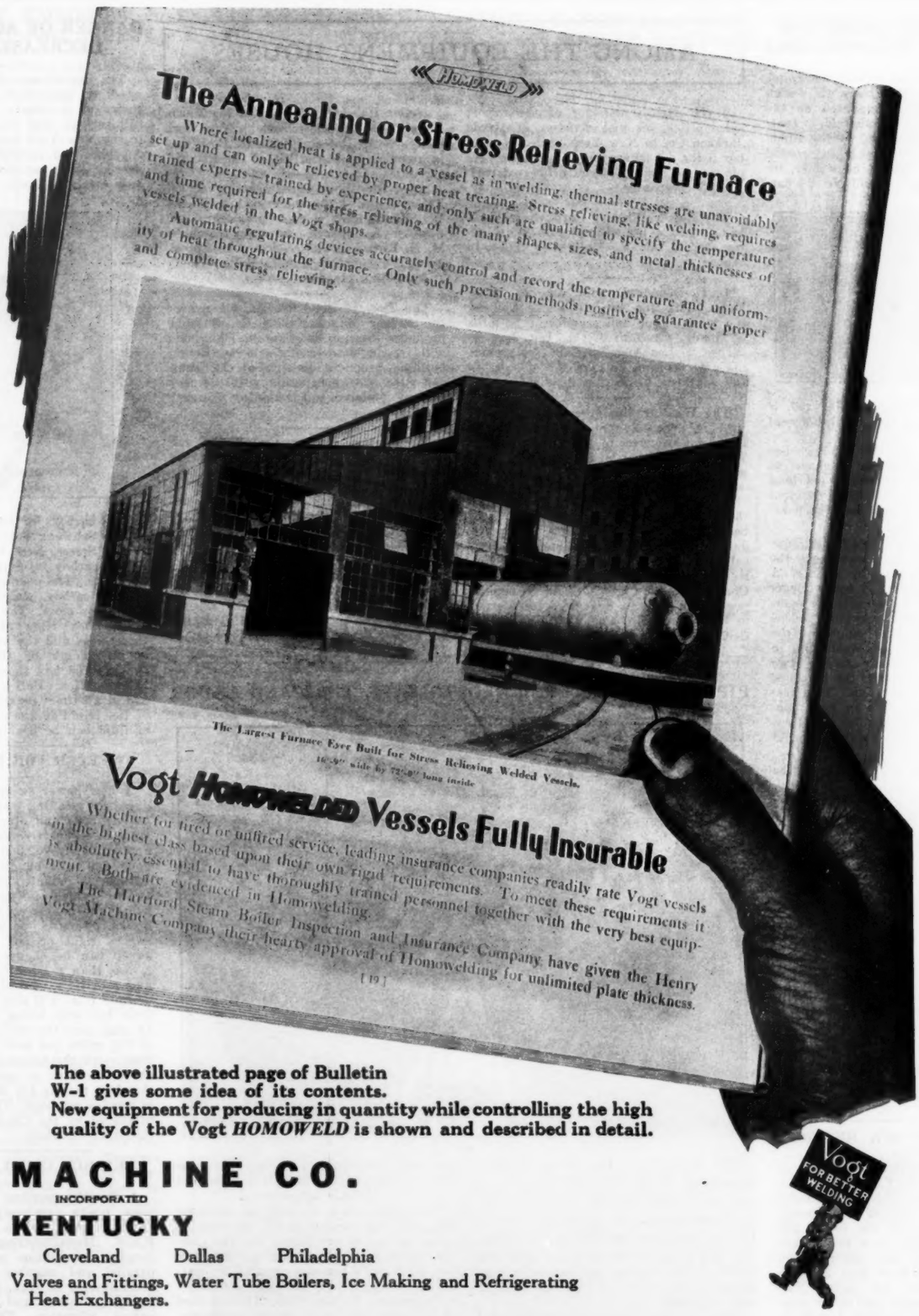
INDIANAPOLIS, Ind., Dec. 7.—The measurement of gas by use of the therm basis is prohibited by an order adopted by the Indiana Public Service Commission. The commission concedes that the therm basis is scientifically correct, but criticizes the methods it says have been used by public utilities in requiring its use and discontinuing the more easily understood cubic foot measurement.

The order followed an investigation initiated by the commission after the receipt of protests from 32 counties where the new system was being introduced.

The committee on public utility rates of the National Association of Railroad and Utilities Commissioners recommended the adoption of the therm system by state commissions in its report to the recent convention of the association. The representative of the New York Public Service Commission, however, in a minority report opposed the use of this basis of measuring gas.

MEETING OF 1932 EXECUTIVE BOARD AMERICAN GAS ASSOCIATION

Standing, left to right: I. K. Peck, J. M. Roberts, J. A. Perry, H. C. Abell, D. B. Stokes, R. M. Leach, David F. Kahn, Kurwin R. Boyes, Henry Obermeyer, E. R. Acker, A. J. Peters, W. A. Doering, T. J. Stickler and W. F. Miller. Seated, left to right: W. C. Beckjord, Herman Russell, J. S. DeHart, Jr., W. J. Welsh, F. A. Lemke, R. W. Gallagher, O. H. Fogg, Arthur Hewitt, Conrad N. Lauer, B. J. Mullaney and Alexander Forward.


HOMOWELD
The Annealing or Stress Relieving Furnace
Where localized heat is applied to a vessel as in welding, thermal stresses are unavoidably set up and can only be relieved by proper heat treating. Stress relieving, like welding, requires trained experts—trained by experience, and only such are qualified to specify the temperature and time required for the stress relieving of the many shapes, sizes, and metal thicknesses of vessels welded in the Vogt shops.
Automatic regulating devices accurately control and record the temperature and uniformity of heat throughout the furnace. Only such precision methods positively guarantee proper and complete stress relieving.
The Largest Furnace Ever Built for Stress Relieving Welded Vessels.
Vogt HOMOWELDED Vessels Fully Insurable
Whether for fired or unfired service, leading insurance companies readily rate Vogt vessels in the highest class based upon their own rigid requirements. To meet these requirements it is absolutely essential to have thoroughly trained personnel together with the very best equipment. Both are evidenced in Homowelding.
The Hartford Steam Boiler Inspection and Insurance Company have given the Henry Vogt Machine Company their hearty approval of Homowelding for unlimited plate thickness.
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Vogt FOR BETTER WELDING

The above illustrated page of Bulletin W-1 gives some idea of its contents. New equipment for producing in quantity while controlling the high quality of the Vogt *HOMOWELD* is shown and described in detail.

MACHINE CO.

INCORPORATED

KENTUCKY

Cleveland Dallas Philadelphia

Valves and Fittings, Water Tube Boilers, Ice Making and Refrigerating Heat Exchangers.

Oil Industry Equipment and Supplies

LINDEWELDER SHORTENS TIME OF WELDING JOBS

A new oxyacetylene welding blowpipe, reported to be revolutionary in design and accomplishment, designated as the Oxweld Type W-21 Lindewelder (patented) has been introduced by the Linde Air Products Co., 30 East Forty-second Street, New York. The Lindewelder, together with the new Oxweld No. 24 pat-

ented Lindeweld process welding rod, is for use in welding by the Lindeweld process.

Through the use of the Lindewelder, welds of great strength are produced at increased speed. In the field of overland pipe line construction, the time required to make a weld is said to have been reduced 40 to 60 per cent.

The Lindewelder is a two-flame blowpipe with a rod holder which feeds the welding rod automatically by gravity. A rod-lifting device controlled by a trigger on the blowpipe handle permits the operator to raise or lower the welding rod as required in starting and completing the weld, in passing over tack-welds and in changing rod. A carriage having two adjustable runners supports the blowpipe during the welding operation. This feature provides greater ease in manipulation and complete comfort for the operator, as only one hand is required to hold the blowpipe.

Two separate flames are utilized in the Lindewelder, one for preheating the welding rod and one for performing the actual welding operation. The upper or preheating flame is so adjusted that the inner cone impinges directly on the rod as it emerges from the lower end of the rod holder, preheating it almost to the melting point. The lower flame is the welding flame, which is directed between the vee and the rod so that it prepares the base metal for proper fusion with the weld metal and simultaneously melts the end of the preheated welding rod in the welding puddle.

Five sizes of welding tips, Nos. 9 to 13, inclusive, and five sizes of preheating tips, Nos. 4 to 8, inclusive, are available for the Type W-21 Lindewelder. Interchangeable welding rod holders are furnished in three sizes, for one-fourth-inch, five-sixteenths-inch and three-eighths-inch welding rod.

ADSCO OFFERS NEW METERS

The American District Steam Co. of North Tonawanda, N. Y., is now building the Adsco rotary condensation meter in two small sizes, one of 250 pounds capacity per hour and the other 500 pounds per hour. These new meters are similar in design to the larger Adsco rotary meters which have been used on industrial steam lines for years. The Adsco rotary is a bucket-type meter, containing six identical buckets locked in position at the rotor axis. As the buckets are filled, the weight of the condensate causes rotation, discharging the buckets and bringing empty buckets successively into position for filling. The revolutions of the rotor are transmitted to the dial which registers the measurement in pounds.

AMONG THE EQUIPMENT HOUSES

J. H. Baird, manager of the export sales office, oil tool division, of Byron Jackson Co. in New York, sailed November 5 for a business trip to Europe. He planned to visit the head offices of various oil companies.

The Foster Wheeler Corp., New York, has opened a branch office in Washington, D. C. J. S. Malseed will be in charge.

L. L. Brundred, who was in Pittsburgh, Pa., for several weeks visiting the welded pipe and seamless tube mills of Spang, Chalfant & Co., Inc., has returned to Los Angeles, Calif., to assume his new position as manager of sales in the southern California district.

The Welding Engineering Co. of Bartlesville, Okla., announces that the name has been changed to H. C. Price, Inc. There is no change in ownership and management.

Plans for increased sales activities by the United American Bosch Corp. have been announced by H. Waker, vice president in charge of the automotive general sales division. George Shortmeier, formerly sales manager New York, and Charles L. Shedd, who held a similar position in Chicago, have been transferred to the main office and plant in Springfield, Mass.

Neilan Co., Ltd. (division of the Mason Regulator Co.), has moved its New York offices to 19 Rector Street. R. B. Werey is manager of the office.

At a recent directors' meeting of the Tulsa Boiler & Machinery Co., Charles W. Flint was elected president, and Stanley L. Spence, secretary-treasurer. M. H. Kotzebue was re-elected vice president. The company manufactures refinery and gasoline plant equipment.

The Truscon Steel Co. has taken over the Berger Manufacturing Co. building products division in Canton, Ohio, and will continue to operate it as Berger building products division of the Truscon Steel Co., continuing with Berger's present policies and retaining Berger's staff.

The Happy Belting Co., Tulsa, has taken over the line of the Medart Pulley Co. for distribution in the Mid-Continent Field. Art F. Nixon, vice president of the Happy Belting Co. and representative for his company in Texas, will have his headquarters in Fort Worth.

The Lincoln Electric Co. of Cleveland, Ohio, manufacturers of "Linc-weld" motors and "Stable Arc" welders, has moved its New York office from 136 Liberty Street to the new McGraw Hill Building at 330 West Forty-second Street.

PIPE CRADLE IS DESIGNED TO SAVE TIME AND LABOR

The W-K-M Co., Inc., Houston, Tex., is offering in the W-K-M pipe cradle a time and labor saving device in pipe line construction. Its many uses include (1) the lowering of lines in the ditch, (2) the removal of old lines from the ditch, (3) the raising and holding of pipe at the proper level for cleaning, coating and wrapping.

When a new line is strung out and welded in advance of the ditcher the usual procedure is to take one tractor with side boom and swing the pipe over into the ditch, while with the cradle, once the pipe has been engaged, the tractor moves over to the trench and lowers the pipe as it goes forward. In the case of old pipe which is to be removed it is not even necessary to uncover the pipe fully as the cradle will pull it loose and out as the tractor advances.

When the cradle is used in cleaning, wrapping, or coating work, the pipe is raised to the proper height and the tractor moves forward as fast as the work can be done. When the cleaning or coating is accomplished the pipe automatically returns to the ditch. This method of handling eliminates the releasing and re-engaging of the pipe.

Three sets of steel cone rollers operate on bronze bushings equipped with alemite fittings for convenient lubrication. They are assembled into heavy side bars which are hinged in the middle in order that it will move over collars and welds without jumping.

DANGER OF ACCIDENTS DECREASED BY TILTER

The importance of using proper acid handling equipment is attested by statistics on accidents. During 12 months 219 serious acid injuries were reported to the New York Industrial Commission. An improved carboy tilter, designed to prevent such accidents and enable one man safely to truck, drain and otherwise

handle carboys of liquids, is announced by the Schwenk Safety Device Corp., 27 Water Street, New York.

The carboy is elevated into the tilter by levers. The operator does not directly lift the carboy, which often weighs 200 pounds or more. The cradle wherein the carboy box rests provides support on three sides and the bottom so that there is no danger of the bottle dropping through the box though the wood be in bad condition. Full control in pouring is had at all times regardless of the amount of the liquid in the carboy. Every drop of fluid can be drained from the bottle.

SWEEPER FOR LARGE AREAS

A new power sweeper has been introduced for cleaning warehouses, sidewalks, paved yards and other large areas that must be swept frequently. It will clean approximately 42,000 square feet per hour and will handle light snow. This sweeper is mounted on a Clarkat Tructractor which is gas-powered for 24 hours' continuous operation. The 60-inch broom cleans a path 52 inches wide, sweeps right or left and the angle of sweep can be changed by the operator is less than a minute. Broom is always under driver's control, he can lower it or raise it at will and by a special clutch lever can stop broom rotation instantly. In high gear the equipment has a speed of 7½ miles per hour and going to and from work the broom is carried 6 inches above the floor or pavement. In operation best results are obtained at a speed of 2 miles per hour. The sweeper is manufactured by the Clark Tructractor Co., Battle Creek, Mich.

FLEXIBLE COUPLING OFFERED

A flexible coupling designed to overcome faults previously associated with drives of this kind is announced by the F.A.B. Manufacturing Co. The new coupling, in addition to compensating for parallel and angular misalignment, or combinations of both, embodies a shock-resisting feature and method of eliminating vibration. The manufacturers state that no lubrication is required and that the coupling will operate noiselessly at 3,450 r.p.m. It is being manufactured in sizes up to 1,200 horsepower. Complete information and a new bulletin may be procured from the manufacturers, Sixty-seventh and Vallejo Streets, Oakland, Calif.

Oil Industry Equipment and Supplies

GATE VALVE EMBODIES STRENGTH AND SAFETY

A new semisteel drilling gate valve described by the manufacturer as more economical than ordinary steel valves and yet is as strong and safe as any valve ever made for corresponding pressures has been announced by the Westcott Valve Co., East St. Louis, Ill. The valve, designed for all pressures of 1,000 pounds and under, is made of the new metal developed by Westcott, which is said to be as strong as steel, but less expensive. It has longer threads, hard steel seat rings (screwed in), solid steel discs, stainless steel stem and other important features that have been developed by Westcott through many years' experience in the manufacture of drilling gate valves.

The new valve was designed for the East Texas fields, but it met with such success that it has been accepted readily in other fields.

STACEY STOCK IS PURCHASED

The International-Stacey Corp., with headquarters in Columbus, Ohio, announces the purchase of all the stock of the Stacey Manufacturing Co. of Cincinnati, Ohio. The Stacey Manufacturing Co. together with the Stacey Brothers Gas Construction Co. which recently was purchased by International-Stacey Corp., is one of the oldest and largest companies devoted to the design and fabrication of gasholders and other high pressure tankage. The operation of these two businesses in Cincinnati under the direction of the International-Stacey Corp. will constitute one of the major industries of that city. Col. Carmi Thompson, president; A. A. Ranshaw, vice president; H. M. Runkle, secretary and treasurer; and E. J. Baechle, assistant secretary and treasurer, will head the Cincinnati group, which will be known as the Stacey Gas Construction Division of International-Stacey Corp. Management will be directed from the executive offices in Columbus. The organization reports that on the basis of present quotations for business, there will be need for the employment of an additional force of 200 to 250 men at the Cincinnati plant.

BETTIS TO REPRESENT REGAN

Announcement is made of the appointment of the Bettis Sales Co. as exclusive Mid-Continent representative for the Regan Forge & Engineering Co. of San Pedro, Calif. Under the personal direction of Roy Bettis, president of the sales organization, contact with all fields in Texas, Louisiana, Oklahoma and Colorado will be maintained and close attention will be given to all details of installation, according to officials of the Regan organization. Roy Bettis, who organized the Bettis Sales Co. several years ago, and pioneered specialties in the Mid-Continent, including Bettis protectors, reports the establishment of an engineering department to work in cooperation with Regan engineers. Thus two corps of engineers will concentrate on Mid-Continent installations of Regan equipment and it is the announced intention of Mr. Bettis to place engineers in practically every field.

EXPLOSION-RESISTING FITTINGS INTRODUCED

Revision of the standards relative to gasoline discharge devices makes necessary the use of switch and conduit fittings of types determined suitable for use in explosive atmosphere of gasoline vapor air mixtures. Not only is this important to the manufacturer of such discharge devices but also to the electrical contractors charged with the installation of this equipment, in as much as explosion resisting fittings must necessarily be used to install such discharge devices.

The O. C. Keckley Co., 565 Washington Boulevard, Chicago, working in collaboration with engineers of oil and pump companies, has developed a line of explosion resisting conduit and switch housings, in which the gasket and small screws are eliminated. Rugged in construction, with threaded bronze screwed cover, these fittings offer ready accessibility for wiring, uniformity of construction, ample wiring space, easy installation by means of the special conduit coupling, and a particular fitting for each individual need.

THREE CATERPILLAR MEN TAKE HIGHER POSITIONS

L. B. Neumiller, the new head of "Caterpillar" service department, started in 1915 with the Holt Manufacturing Co., a predecessor of Caterpillar Tractor Co., in the engineering department and was superintendent of that department when in 1921 further opportunities were offered in the parts department. Mr. Neumiller was manager of the parts department in Peoria, Ill., until 1925, at which time the Caterpillar Tractor Co. was formed. Subsequently, he became general parts manager and until recently was in charge of all activities of the department.

Lou Morgan, for 12 years with the Caterpillar Tractor Co. and one of its predecessors, the C. L. Best Manufacturing Co., becomes general parts manager to succeed Mr. Neumiller. He spent 10 years in the San Leandro, Calif., parts department of "Caterpillar" and the last two years in Peoria.

The two promotions follow the advancement of Col. Paul Weeks from general service manager to Washington, D. C., manager.

NOTES ABOUT TRADE LITERATURE

"A Useful Pumping Unit for the Oil Industry" is the title of a leaflet prepared by the Allis-Chalmers Manufacturing Co., Milwaukee, describing the company's type SSU pump.

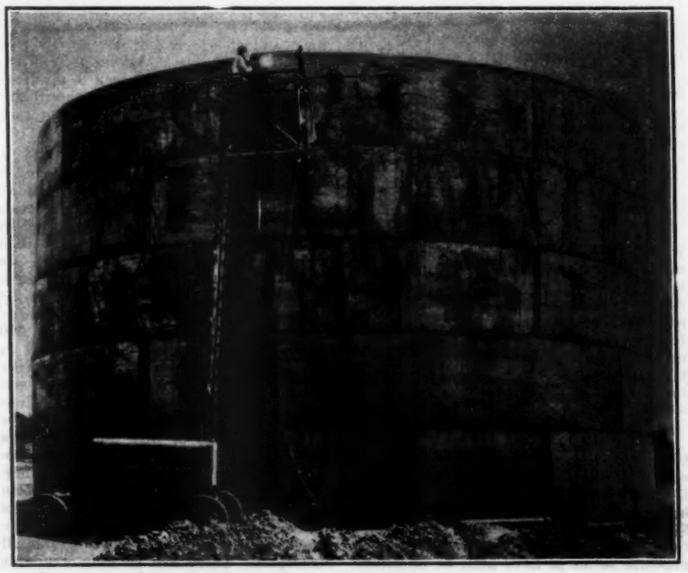
The Bristol Co., Waterbury, Conn., has ready for distribution a 24-page booklet in colors describing its free-vane air-operated recorder controller.

The Bastian-Blessing Co., 240 East Ontario Street, Chicago, makers of Rego welding and cutting equipment, announce a new catalog, No. 57, and offer it to anyone having an interest in such equipment. The catalog is a pocket size booklet of 40 pages, indexed for ready reference.

The Ingersoll-Rand Co., 11 Broadway, New York, has issued a new 20-page, illustrated catalog, form No. 4,364, on paving breakers and pile drivers for sheet piling. It describes four sizes of paving breakers, two of which, the 37-pound L-54 and the 80-pound R-63, have been added to the line in recent months. It also contains material on two new pile drivers, the R-63 and the R-30.

A 16-page book issued by the Reading-Pratt & Cady Co., Bridgeport, Conn., gives a complete description of the new Lubrotite gate valve with its uses.

NO BOLTS OR RIVETS USED IN BUILDING STORAGE TANK



This 20,000-bbl. storage tank built at Corpus Christi, Tex., does not contain a single bolt or rivet. The Lincoln Electric Co., Cleveland, Ohio, which constructed the tank, used its arc welding process throughout.

PRODUCED WITH SHAFFER ADJUSTABLE FLOW BEAN

What is perhaps the most important well ever drilled in the Rocky Mountain region is the Resolute Oil Corp.'s No. 1 Northern Pacific on the Badger Basin structure, Park County, Wyoming.

Recently completed at 8,725 feet, it is being produced through a ten-sixty-fourths-inch Shaffer adjustable flow bean with satisfactory results reported. The well has a pressure of 1,250 pounds on the gauge at casing-head with the hole full of oil. The rock pressure is something over 4,000 pounds.

The Chicago office of the American Manganese Steel Co. has been moved from 333 North Michigan Avenue to room 1414 McCormick Building, 332 South Michigan Avenue, where it is located with its parent company, the American Brake Shoe and Foundry Co.

SEMINOLE BOOM TRACTOR BUILT FOR HARD GOING

The Cleveland Tractor Co., Cleveland, Ohio, in co-operation with the Resistcor Engineering Co. of Muskogee, Okla., has developed the Cletrac Seminole boom tractor for use in pipe laying and similar work. This unit, a 40-30 Cletrac Hillside Special, measures 60 inches from center to center of tracks. The tracks themselves are 16 inches in width, giving the unit an overall measurement of 76 inches. These tracks give the unit exceptional lighting capacity and traction over all types of soil conditions.

The boom is mounted to the tractor by attaching it to the track frame shaft at the rear, and to the equipment mounting trunnion on the heavy rolled steel track from cover in front. Power for operating the lifting cables is taken forward from the power takeoff by the use of heavy duty roller chains. Balance is maintained on heavy lifts through the use of 2,000 pounds of counterweights.

This unit is built primarily for pipe handling operations, including the laying, lining up, lowering in the trenches, making over bends, side bends, sags, etc., but it is also adapted to loading trucks, setting poles and towers and similar work.

Only two levers in addition to the master clutch are used to control the entire operation of the boom.

REGULATOR COMPANIES UNITE

The Mason Regulator Co. has acquired the Neilan Co., Ltd., Los Angeles, Calif. F. Kenneth Morrison, sales manager of the Mason Regulator Co., states: "Through the joining of the Mason and the Neilan companies we are now able to offer a broader and more useful service to every industry interested in efficient control of process and power operations. The addition of the Neilan line makes possible a number of interesting and valuable contributions to the increasingly important development of scientific control throughout industry. The combined laboratory and production facilities and the force of experienced field engineers now available at every industrial center throughout the United States puts us in a position to increase greatly the scope and helpfulness of our service in this industrial operation."

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

WHAT IS A DRILLING BLOCK?

Define the term "drilling block." Here are some of the points I would like to have cleared up: Must a drilling block be solid? Must the parts of a drilling block adjoin? What reasonable distances can tracts be located from a drilling well and still be a part of that block? Geological conditions naturally would have a bearing on the answer. For instance, a fault line block would be different from a salt dome. For your guidance in answering my questions I will state that the point in controversy covers a block in the Permian Basin area.—E. L. C.

Landmen consulted say that the general term "drilling block" without qualifying conditions might mean several things. It should be qualified as a "solid," "open" or "drilling requirement" block because without such qualifications the meaning would involve a study of the acreage maps to determine the type of acreage included in the block in question.

Blocks of land assembled for drilling purposes may be of any size from 100 to several thousand acres and depending upon conditions pertaining to the particular parcel of land in question might be solid or made up of any number of adjacent blocks of land.

As you say, the geological formation underlying the acreage would have a bearing upon the desirability of the land for wildcat drilling and if the block is made up of checkerboarded acreage a company might be inclined to accept it in that condition and drill a test well if the individual blocks or pieces making up the whole "drilling block" were located along the general trend of the structure.

There seems to be no generally accepted meaning among land and lease men of the term "drilling block." If the term is qualified its meaning becomes obvious.

HORSEPOWER FOR PUMPING

I should like to plot the horsepower requirements of various wells in this field and I wonder if you can furnish me with the formula used to ascertain the horsepower required of the engine when the length of stroke, size of tubing, depth of well, size of rod, size of barrel, daily average production, gravity of the oil and number of strokes per minute are known.

What is the average frictional loss between the prime mover and the rods? I am interested in pumping rigs equipped with revolving counterbalance and countershaft clutch. I understand the weight of these balances averages around 3,800 pounds.—V. D. B.

Information at hand indicates there is no one formula that will cover your entire question, but you are referred to an article published in The Oil and Gas Journal May 29, 1930, by L. S. Thompson, petroleum engineer, Carter Oil Co., on "Weighing Wells Still in Its Infancy." Mr. Thompson states:

"The horsepower delivered at the polished rod can be determined by a simple formula. Taking the mean height of the card (best determined by the aid of a planimeter) as the mean effective force throughout the cycle (f) we have:

$$HP = \frac{F L N}{396{,}000}$$

Where,
F is in pounds
L is length of stroke in inches, and
N is the number of strokes per minute.

"This figure serves as a basis for the overall mechanical efficiency (where input power to the prime mover can be indicated). It shows the size engine or motor required, and power transmitted by belts, etc."

As the use of a dynamometer seems essential in developing the data needed to make proper estimates of power requirements it is suggested that you write to Martin-Decker Corp., Long Beach, Calif., for copies of its bulletins and information about the average frictional loss between the prime mover and the rods.

In The Oil and Gas Journal of November 26, 1931, you will find an article prepared by Hallan N. Marsh, General Petroleum Corp., Los Angeles, Calif., on "Volumetric Efficiency in Pumping," which will give some additional data of interest in connection with your problem.

In general you probably will find that each well presents its own particular problems and even slight changes in mechanical details will have decided influence upon the amount of power required for pumping the fluid from the hole.

EFFECT OF NITROGLYCERIN

Are you able to tell me, in a general way at least, what sort of effect solidified nitroglycerin has on the formation when it is exploded in a well hole? That is, does it have a fragmentizing and pulverizing effect, causing a general loosening of the area, or does it cause fissures to open up? The rate of detonation probably is involved here and there may be several factors that affect the rate of detonation. —E. L. O.

Experience and observation indicate that certain factors, including the diameter of the explosive column, strength of the initiator (such as squib or bomb) and hydrostatic pressure have a decided influence on the rate of detonation of solidified nitroglycerin, whereas hydrostatic pressure seems to have little or no effect on liquid nitroglycerin, according to Paul L. Lewis, manager of the American Glycerin Co.

It has been noted that the rate of detonation of solidified nitroglycerin decreases about proportionately as the hydrostatic pressure increases, which is at least partly accounted for by the fact that the pressure causes evacuation of the air bubbles in solidified nitroglycerin resulting in a decrease in oxygen and a resultant slowing up of the process of decomposition. Furthermore, it is well known that the rate of detonation of practically all solid explosives is affected by pressure and that they can be compressed to the point where they cannot be exploded at all, hence the need for intelligent application.

In rock shooting, such as in quarrying, where results obtained are visual and in a measure comparable to results obtained in oil and gas well shooting, it is found that regardless of the nature of the rock the higher the rate of detonation of the explosive used, the shorter the disruptive wave and the more local the effect. The slower the explosive used, the longer the disruptive wave and the more general the effect. For instance, to spring a hole in quarrying to increase its capacity to contain explosives, straight nitroglycerin dynamite is used because of its high velocity and local effect. A slow-acting explosive should not be used because its effect would be to open up the rock in all directions (in the line of least resistance) and possibly open cracks or crevices to adjacent holes.

In soft sands like the Peru sand in Kansas, where liquid nitroglycerin is used, its effect is localized to such an extent that it makes cleaning out costs prohibitive. In some cases cleaning out after a liquid shot has cost more than the original drilling (shallow field). In this field where solidified nitroglycerin is now used almost exclusively, best results are obtained (with comparatively little cleaning out) when approximately 500 feet of fluid stemming is used. It is noted that production was increased little by the use of liquid nitroglycerin and materially increased by the use of solidified nitroglycerin, indicating that the quantity of sand or lime taken out of a well is not truly indicative of the productive effect of the shot. It also indicated that the solidified nitroglycerin under most conditions is slower in its action and that consequently its disruptive range is wider in most of the oil structures. There are no data available to indicate the disruptive range of any explosive in any particular stratum because of the wide variations in rock structures involved.

WHY WAS IT CALLED THAT?

GAS

Invention of the word "gas" is credited to Jean Baptiste van Helmont, Belgian chemist and physician, who made an exhaustive study of aeriform fluids and who died on his estate near Vilvorde, Belgium, in 1644. According to some authorities he took the word from the Medieval English "gast," ghost, because gaseous substances seemed to embody the idea of spirit or apparition. Others suggest that he obtained it from the Latin "chaos," the void and formless infinite; the unorganized state of primordial matter before the creation of distinct and orderly forms. Along with other educated men of his time van Helmont leaned strongly to mysticism and he speculated much on the seat of the soul, which he placed in the stomach.

HOW MUCH PRESSURE?

The first gas well ever found in Crittenden County, Kentucky, is now coming in at a depth of 800 feet, 6 miles north of Marion, possibly from the Bethel sand of the Mississippian rocks. The well is full of water and the gas is pushing water over the top of the casing. The water bubbles up and is considerably colored. The well will be put in shape for production soon. I would like to know about what pressure we could expect this well to have when the gas comes up through 800 feet of water and pushes the water over the top.—W. S. L.

It is understood from your letter that the depth at which the producing formation has been found is about 800 feet. The water comes to the surface and the gas is discharged with it.

Several things may be causing this water to flow to the surface such as gas pressure, hydrostatic head on the formation or a combination of these two forces.

The 800-foot column of water will weigh about 344 pounds per square inch, or .43 pound per foot of height of column. This pressure is expressed in pounds per square inch at the bottom of the hole and the size of the hole does not affect it. If the gas actually is causing this water to flow it would be under a pressure of more than 344 pounds in the formation because it would have to overcome some friction in pushing the water up through the hole.

On the other hand it is possible that the hydrostatic head on the water sand is more than 344 pounds per square inch and the water therefore rises to the surface and carries the gas with it.

It seems likely that the flow is due to the hydrostatic head on the water sand and that the gas flows out with the water. The gas bubbles are merely pockets of gas in the water breaking as they reach the surface.

If you knew the shut-in pressure at the well head and the volume of gas the well is producing it might be possible to estimate how much water it would flow per day.

You should be able to trace this producing sand to its outcrop and if you then take the difference in surface elevation between that point and the place where the well taps the sand and multiply the number of feet by .43 pound per square inch you can estimate the value of the hydrostatic head at the well, and if it is greater than 344 pounds you can assume safely that the flow is hydrostatic rather than from gas pressure.

PIPE LINE CAPACITIES

We would like to receive some information as to what formulas might be used in computing pipe line capacities where natural gas is transported from one point to another.—J. R. D.

The formula for computing pipe line capacities now generally accepted by natural gas companies was developed by Thomas R. Weymouth and is printed complete in the Transactions of the American Society of Mechanical Engineers, Vol. 34, pp. 1091-1104. This formula with a mass of other information is published in the "Natural Gas Handbook," by John C. Diehl, Metric Metal Works, of the American Meter Co., Erie, Pa., and this book will be of value to you in connection with your problem.

You also are referred to an article published on Page 117 of the January 1, 1931, issue of The Oil and Gas Journal by Ralph E. Davis and Lyon F. Terry, "Design of High Pressure Gas Lines," in which Mr. Weymouth's formula is restated.

STRAIGHT FACTS

The 22nd of a Series and the 5th advertisement on Sucker Rods

Proof of the Pudding lies in the eating . . . .

CONTROLLED PROCESSES

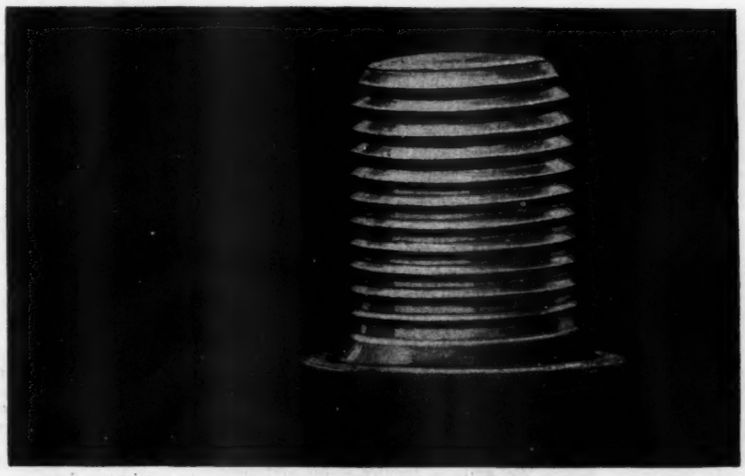
From selected heats of the best alloy steel meeting established physical and chemical standards and properly rolled, Axelson rod stock combines all desirable features, namely: strength, elasticity and ductility. Tested metallurgically and chemically, it offers the ultimate fatigue resistance.

Forged under uniform heat conditions and automatic control, Axelson upset pin ends must have correct flow lines. The increased diameter of the rod just below the forged end retards the possibility of fracture at that point most highly subjected to excessive bending stresses.

To relieve forging stresses, to refine the grain structure and to lengthen their service life, Axelson rods are scientifically heat-treated by the most modern methods. Each phase of this heat-treatment is automatically governed by recording and controlling pyrometers.

Precision machined to A.P.I. tolerances, every Axelson pin end is subjected to 17 rigid inspections prior to shipment.

Thirty years of experience in sucker rod manufacture, years filled with research, experiments and development stand behind each Axelson Sucker Rod.



Specimens are subjected to shock test on the Olsen-Izod.

Brinnel and Rockwell hardness testers determine the grain structure.

Rods are tested for ultimate strength by an Olsen tensile testing machine.

Read These Records

Axelson Rods installed October 24, 1930.
Tubed to 7020 ft.
Tubing 2½".
Pump—Axelson 2½" Traveling Tube Insert Cup Pump.
Production—360 barrels per day.
One Pin break to date.

Axelson Rods installed December 12, 1930.
Tubed to 6500 ft.
Tubing 2½".
Pump—2½" Axelson Traveling Tube Insert Cup.
Production—150 barrels per day.
No breaks to date.

AXELSON SUCKER RODS

AXELSON MANUFACTURING CO.
P. O. Box 710, Vernon Sta., Los Angeles
Tulsa St. Louis
New York City, 30 Church St.
Mid-Continent and Eastern Distributors:
Frick-Reid Supply Corporation

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas, and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

RECOVERY OF LEAD FROM SPENT DOCTOR SOLUTION

Is there any known method to keep lead sulphide from foaming while in process of regenerating? What is the best known converter for this process? What is the best method to separate gasoline from sulphide?—R. S. J.

The fundamental reaction involved in the recovery of lead from the spent doctor solution is based on the action of oxygen from air. There are several steps in the process, the final compounds being the lead oxide, from the sulphide, and sodium thiosulphate from the caustic soda. The lead oxide combining with the excess caustic soda to form the sodium plumbite.

A very brief outline of the process may be given. The spent doctor solution goes to storage tanks where there is a partial separation of entrained gasoline or oil. This light oil is withdrawn as convenient and the sludge from the bottom is sent to the recovery system. The first unit may consist of a tank with a cone bottom, from which any solid material may be withdrawn when necessary, and equipped with closed steam coils for the purpose of slowly heating the mixture to not over 150° F. A final separation of the oil should be obtained in this unit, and the mixture of lead sulphide and caustic made ready for the blowing tanks. It is in the first unit that serious foaming frequently takes place, and may be caused in several ways; the most important being too rapid heating of the mixture, imperfect separation of the light oil, and possibly the presence of soaps. The blowing tanks are equipped with open steam coils and perforated coils through which compressed air is introduced. Foaming may take place here if the solution is brought to a high temperature, good operation is just below the boiling point, and too much air is used. Just enough air should be used to keep the mixture in active motion. The operation is complete when solution is obtained; that is, the suspended matter disappears and a clear solution is formed. This solution, usually of a yellowish to brownish color, is tested and adjusted as required for use. Sometimes the liquid from the blowing tanks has too much color, then it is necessary to wash it either with a low sulphur finished naphtha or with water; some plants use both.

Frequent and adequate chemical control of the operation is advisable for the highest efficiency and smooth operation. The sludge should be fed to the system of a uniform composition which is possible if ample storage is available and intermediate tanks are used between the warming tanks and the blowing tanks. The solid material from the coned tank is returned for further treatment.

CONTROL WHEN MAKING GASOLINE

We have a number of small skimming plants producing small quantities of gasoline, which in most cases fails to pass U. S. Motor Gasoline specifications. Practically all of them are using the hydrometer for controlling the gasoline output, and we would like to change them over to the thermometer somewhere in the vapor line so they could know when to stop running gasoline in time to make the 90 per cent point. Where should the thermometer well be installed in the vapor line?—J. S.

This may involve attempting to do by a rule of thumb method something that should be done according to well established principles under scientific control. The hydrometer is an exceedingly useful instrument for controlling petroleum fractions as they come from the still. These fractions, commonly called cuts, should be decided upon by means of thorough laboratory examinations and then checked by suitable tests as often as local conditions may require. The properties, such as distillation percentages of the gasoline, will vary with the crude petroleum and the distilling equipment. If there is no dephlegmating tower, for example, it will be difficult to control the distillate very closely either by a thermometer or a hydrometer.

The quality of our modern gasoline has been established through scientific study, constant improvement in refining units and close laboratory control of all operations involved. The product known as U. S. Motor Gasoline compares favorably with the larger part of the gasoline consumed; however, it cannot be made without adequate laboratory inspection.

Under ordinary refining conditions the stillman observes at least four temperatures—the temperature of the oil in the still, the vapors escaping into the vapor line, the top of the tower, and finally the temperature of the stream from the condenser. In some refineries additional temperatures are used in the control. If only one temperature were to be used it would be a matter of choice between the hot oil temperature and that of the vapor entering the vapor line.

It makes little difference where the thermometer well is set in the vapor line, although close to the top of the still is the usual place, because when the conditions are once established the operator should be able to maintain a fixed relation between the vapor temperature, or the hot oil temperature, and the hydrometer indication of the product. Simply maintaining a selected temperature on a small still will not assure one of a gasoline within specifications. The operation of very small refineries is not to be encouraged; because, they cannot possibly make the quality gasoline now demanded. They do not have the fractionating towers that are necessary, the treating facilities are not ample, and they are lacking in proper laboratory equipment and trained chemists.

HYDROGEN SULPHIDE IN HOBBS GAS HIGHEST FOUND

How does the gas from the Hobb Field, New Mexico, compare with the Texas Panhandle gas as to the percentage of hydrogen sulphide? What fields produce the highest percentage of hydrogen sulphide?—F. A.

A recent report of the Bureau of Mines, R.I. 3,128, by Devine and Wilhelm, shows the hydrogen sulphide content of samples of gas collected from 165 wells, the majority being in Texas. Their findings are summarized in the table. Hydrogen sulphide is per cent by volume.

HYDROGEN SULPHIDE IN NATURAL GAS

State, field, county—	Wells tested	Hydrogen sulphide
Illinois:		
Casey, Clark	69	0.10/1.26
Dupo, St. Clair	2	0.02/0.04
New Mexico:		
Hobbs, Lea	13	0.81/5.05
Texas:		
Big Lake, Reagan	4	0.00/10.0
Church and Fields, Crane and Upton	6	5.16/14.8
Hendrick, Winkler	3	1.82/7.65
Henshaw-Kirby Glasscock	2	9.96/18.5
Luling, Caldwell and Guadalupe	8	0.99/4.44
McCamey, Upton	2	2.17/6.00
Panhandle, Hutchinson and Moore	7	0.12/2.92
Penn, Ector	3	2.28/4.20
Robert-Settles, Howard and Glasscock	32	0.00/20.5
Salt Flat, Caldwell	11	0.40/11.0
World, Crockett	2	1.17/10.3
Yates, Pecos	2	3.03/5.45

According to this report the gas from the Hobbs Field contains more hydrogen sulphide than the gas examined from the Panhandle.

The highest percentage of hydrogen sulphide is 20.5 per cent found in a sample of gas from the Roberts-Settles Field, located in Howard and Glasscock Counties, Texas.

"The analyses were largely made in connection with different investigations and not with the aim of securing samples in a systematic manner; hence, the data are incomplete on several of the fields and exhaustive on none of them."

COST OF OCTANE GRADED GASOLINE

We write to inquire if the statement made in The Oil and Gas Journal, October 29, Page 22, Column 4, under Price Consideration will apply to most refineries at this time—"As a matter of fact, however, it costs more to produce the average gasoline of 55 octane number, than one from the same crude of 60 to 65 octane number." Furthermore, we wish to inquire if refinery technologists will generally admit the facts brought out in this statement?—L. R. M.

The purpose of a petroleum refinery is the manufacture of gasoline with all skill directed to the highest possible yields of this primary product, the quantity of the secondary products being incidental and without influence on the market price of gasoline. The secondary products are by-products which have to be sold at a relatively low price and whatever is obtained for them simply helps to reduce the total cost.

Since gasoline brings the largest return to the refiner, a high grade light oil, containing a large percentage of gasoline, is more likely to give a profit by skimming than a heavy oil. Seminole crude, having an A.P.I. gravity of 39, will serve very well for the illustration.

An outline of the yield with the realization,* based on market conditions at this time, is shown in the table:

SKIMMING SEMINOLE CRUDE

Yield from crude—	Pct.	Price per gal.	Return per bbl. of crude
Gasoline (U.S.M.)	39	$.0450	$.7371
Kerosene (41/42)	5	.0225	.0472
Distillate (170 fl.)	3	.0200	.0252
Gas oil (32/32)	20	.0150	.1260
Fuel oil (19)	30	.0100	.1260
Loss	3	....	....
Total	100		$1.0615
Cost of oil		$.83	
Delivery		.15	
Refining		.10	
Ttl. operating cost		$1.08	$1.0865
Refinery loss			.0285
Sales, interest, all other expense			.1500
Net loss per barrel			.1785

The skimming operation gives a yield of 39 per cent gasoline which sells at 4.5 cents a gallon, or a total return of $0.7371 return from each barrel of crude oil refined. The total apparent loss was $0.1785; therefore the gasoline should have sold for that much more, or $0.9156, which is equivalent to 5.59 cents a gallon, in order for the selling price to meet the actual cost.

If the gas oil and fuel oil from the skimming plant is cracked, with the operation running to coke, the gasoline yield will be increased to 72 per cent. The yield and realization on this type of operation is outlined, the prices remaining the same as in the above:

SKIMMING AND CRACKING SEMINOLE CRUDE

Yield from crude—	Pct.	Price per gal.	Return per bbl. of crude
Gasoline (U.S.M.)	72	$.0450	$1.3608
Kerosene (41/42)	5	.0225	.0472
Distillate (170 fl.)	8	.0200	.0672
Coke	6	2.00/ton	.0200
Loss	9	....	....
Total	100		$1.5052
Cost of oil		$.83	
Delivery		.15	
Refining		.20	
Ttl. cost refining.		$1.18	$1.1800
Refinery profit			.3252
Sales, interest, royalty, other expense			.2000
Net profit per barrel			.1252

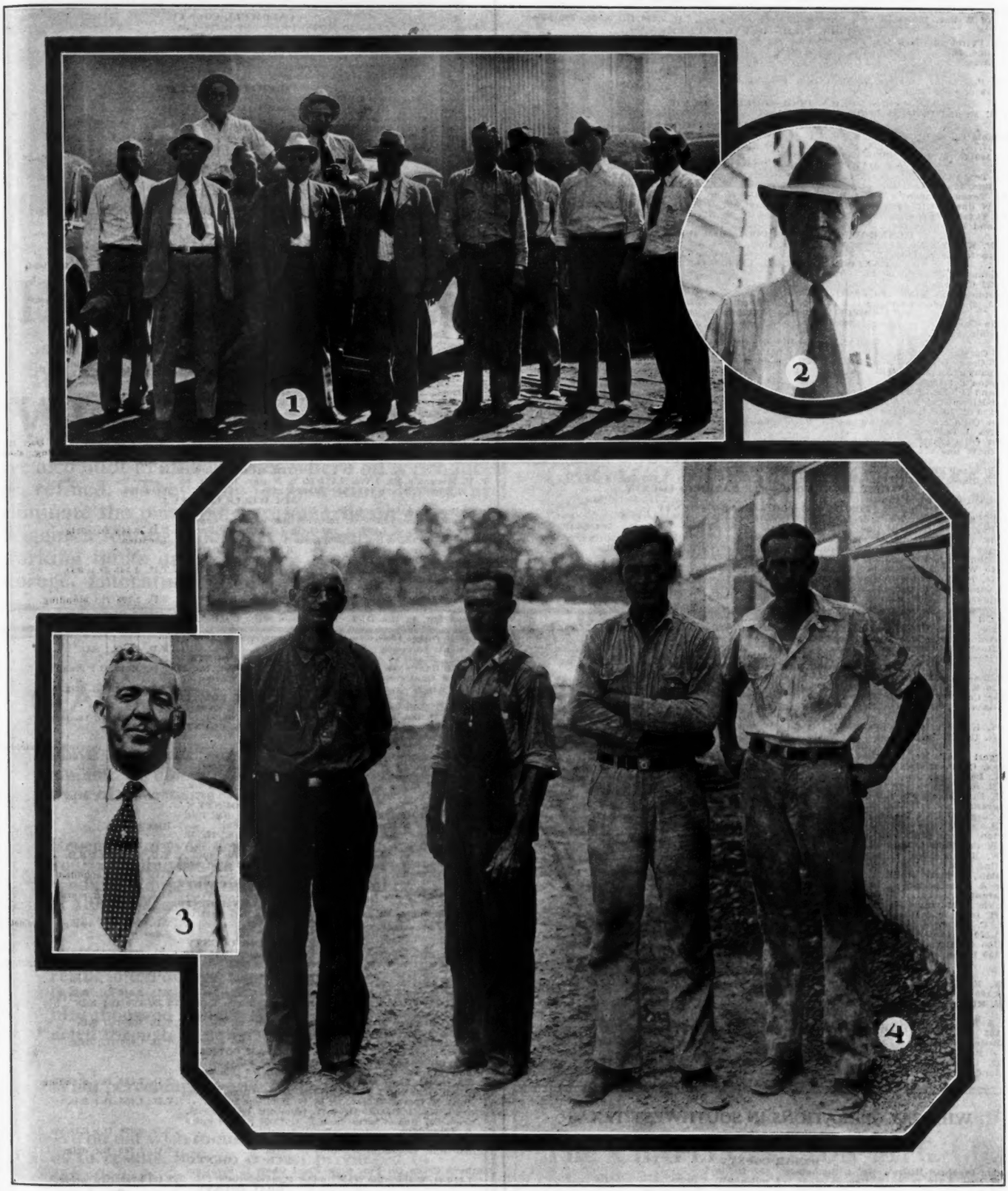
Obtaining the cost in a similar manner to that explained for the skimming type of operation, it is shown that the total return for the combined type is $1.5052, and an excess over cost of $0.1252 per barrel run. Then the gasoline could have been sold for that much less without loss, or for a total of $1.2356, which is at the rate of 4.08 cents a gallon. This means that the blend of the topped and cracked gasoline costs 1.51 cents a gallon less than the gasoline produced in the skimming plant.

The full statement made by Mr. Ziegenhain in the paragraph is:

The recently adopted program of quoting prices on the octane number of gasoline introduces a new factor favorable to the installation of reforming units or vapor phase units. For the present at least gasolines below 55 octane number are quoted one-eighth to one-quarter cent below those in the range of 55 to 65 octane number. As a matter of fact, however, it costs more to produce the average gasoline of 55 octane number than one from the same crude of 60 to 65 octane number. This is applicable in most cases because the 55 octane gasoline is a straightrun product and costs more than a cracked gasoline of 65 octane number.

*There are numerous conditions relating to costs that cannot be explained in this short article. Operating conditions vary, charging stocks are not the same, there are numerous ways for paying royalties and so on. It is thought that the results shown here, considering the present peculiar conditions, are reasonably close. The market prices used are as of November 24, 1931.

Snapped by The Journal's Representatives in East Texas



1—Left to right, front row: J. M. Dwight, Lucey Products Corp.; Charles Moon, Snowden & McSweeney Oil Co.; R. L. Laverty, Joe Platt, Iverson Tool Co.; H. S. Lindermuth, Lucey Products Corp.; Ross Chandler, Herndon Drilling Co. Back row: R. J. Jones, Wickwire Spencer Co.; Jack Kountz, Lucey Products Corp.; A. W. Smith, Bridgeport Machine Co.; J. D. Swartz, South Chester Tube Co., taken at Kilgore, Tex. 2—H. H. Halleck, superintendent, Sun Pipe Line Co., Tyler. 3—Mayor Malcolm J. Crim, landowner and oil operator, Kilgore, Tex. 4—Left to right: C. C. Woods, engineer, H. Morey, assistant engineer, George W. Coppenger, engineer, W. B. Cox, assistant engineer, Atlas Pipe Line Co., Longview, Tex.

SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 36)

Magnolia Pet. Co.'s No. 5 Wilson, 330 ft. from N line W line, 330 ft. from S line of Sur. 135 ..... T.D. 2,416 ft.; comp. 400 bbls.
Magnolia Petroleum Co.'s No. 7 Wilson, 1,340 ft. to W line, 1,150 ft. to N line of Sur. No. 134 ..... Rigging up.
Thomas & Tarver's No. 4 Bishop Cattle Co., 1,175 ft. E of W line, 300 ft. N of S line, Sec. 135 ..... T.D. 2,360 ft.; comp. 500 bbls.

COLE POOL—DUVAL COUNTY

Cole Petroleum Co.'s No. 72 Benavides, 142 ft. to NE line, 365 ft. to SE line of Blk. 3, Sur. 19, Mariana Arispe grant ..... T.D. 1,848 ft.; in sand 1,754-1,848 ft.; coring.
Cole Petroleum Co.'s No. 73 Benavides, Blk. 3, Section 19 of Cole Subd., Mariana Arispe grant ..... Location.

SLICK POOL—GOLIAD COUNTY

C. R. M. and H. H. Weinert's No. 1 Stopke ..... Making location.

CAMP POOL—GUADALUPE COUNTY

Humble Oil & Refining Co.'s No. 2-C Sue Denman, 900 ft. N, 450 ft. E of SW cor. of lease and 450 ft. N, 300 ft. E, 1-C, William Arrington Sur. ..... T.D. 2,533 ft.; comp. 500 bbls.

DARST CREEK—GUADALUPE COUNTY

The Texas Company's No. 7 Henry Willie, 450 ft. to W line, 150 ft. to S line of farm, J. C. Darst Sur. ..... T.D. 2,330 ft.; drlg.
The Texas Company's No. 4 R. A. Parrish, 450 ft. to W line, 150 ft. to N line of farm, J. C. Darst Sur. ..... T.D. 2,220 ft.; drlg.
The Texas Company's No. 7 L. Anderson, 600 ft. to N and E lines of farm, J. C. Darst Sur. ..... T.D. 2,115 ft.; drlg.

HENNE-WINCH-FARISS POOL—JIM HOGG COUNTY

O. W. Killam's No. 2 Lopez, 150 ft. to E line, 380 ft. to N line of Sur. 255 ..... T.D. 1,500 ft.; drlg.

CARTWRIGHT POOL—LIVE OAK COUNTY

Houston Oil Co.'s No. 14 Cartwright, 1,000 ft. W of No. 23 Cartwright ..... T.D. 5,400 ft.; standing.
Houston Oil Co.'s No. 24 Cartwright, 784 ft. N of No. 4, J. M. Colchado Sur. ..... T.D. 506 ft.; drlg.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim ..... T.D. 4,850 ft.; standing.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Sagarin ..... T.D. 4,750 ft.; standing.
Gulf Coast Oil Co.'s No. 1 Elder, NW of same company's No. 1 Harrell ..... T.D. 5,000 ft.; drlg.
Houston Oil Co.'s No. 1-A T. M. Harrell, 330 ft. to N and E lines of tract in H. B. Sheppard Sur. ..... Location.
Neal-Milton and Kepley Pet. Co.'s No. 1 J. N. Roark, 200 ft. to S line, 200 ft. to E line of 10-ac. tr. ..... T.D. 4,850 ft.; bailing.
Saxet Oil Co.'s No. 3 Donigan, north offset to Zoch's No. 1 Baldwin ..... Location.
Saxet Oil Co.'s No. 5 Well, 3,041 ft. to N line, 333 ft. to W line ..... Set surface csg.

WELDER FIELD—SAN PATRICIO COUNTY

Atlantic Oil Prod. Co.'s No. 1 Welder, 500 ft. to N and W lines, Blk. 3, F. R. Portillo Sur. ..... T.D. 4,639 ft.; S. D.

WHITE POINT POOL—SAN PATRICIO COUNTY

Saxet Oil Co.'s No. 18 Rachel ..... T.D. 2,212 ft.; drlg.

LOS OLMOS POOL—STARR COUNTY

Hooks & Weaver's No. 3 Kelsey-Bass, 1,050 ft. to W line, 1,800 ft. to S line, Blk. 2, Sub. of Porcions 75, 76, 77, Jurisdiction of Camargo, Sur. No. 6 ..... T.D. 515 ft.; waiting on cement.
Jenkins & Powers' No. 1 Kelsey-Bass, Porcion 75 ..... T.D. 210 ft.; drlg.
Los Olmos Oil & Gas Co.'s No. 6 Kelsey-Bass, 150 ft. to W and S lines of north half of Blk. 5, Porcions 75, 76, 77, Jurisdiction of Carmargo, Sur. No. 5 ..... T.D. 465 ft.; S.D.
Los Olmos Oil & Gas Co.'s No. 8 Kelsey-Bass in NE quarter of NW quarter of Sur. No. 7, Subd. Porcions 75, 76, 77 ..... Rigging up.
Rio Oil & Ref. Co.'s No. 1 Kelsey-Bass (formerly carried as Los Olmos O. & G. Co.'s No. 1 Kelsey-Bass) ..... T.D. 910 ft.; drlg.
Rio Oil & Ref. Co.'s No. 2 Kelsey-Bass, W offset to Hooks & Weaver No. 1 ..... T.D. 135 ft.; drlg.
San Marcos Oil Co.'s No. 3 Ivey, 450 ft. W of No. 2 ..... T.D. 423 ft.; drlg.

CAROLINA-TEXAS POOL—WEBB COUNTY

Carolina-Texas O. & G. Co.'s No. 10 Barnsley, 150 ft. to E line, 300 ft. to S line of Blk. 14, Sur. 268 ..... Rigging up.
Usher Carson's No. 4-D Webster, 150 ft. to S and W lines of NE quarter, Sur. 684 ..... T.D. 2,618 ft.; workover.

COLE POOL—WEBB COUNTY

O. W. Killam's No. 22 Bruni, 1,755 ft. to SW line, 186 ft. to NW line, Sec. 9 ..... T.D. 2,996 ft.; drlg.

ESCOBAS POOL—ZAPATA COUNTY

Claggett et al's No. 1 Cuellar, Blk. 6, Sur. 61 ..... Rigging up.
Pray & Chamberlain's No. 4 Garza, Blk. 1, Comitas grant ..... Derrick.
E. K. Bateman's No. 1 M. Garza, in Comitas grant, 200 ft. to NW line, 660 ft. to NE line of Blk. 29 ..... T.D. 1,570 ft.; drlg.
F. H. Etheridge's No. 2 Bustamente, Share 35, Comitas grant ..... Derrick.
Grayburg Oil Co.'s No. 1 F. G. Martinez, 150 ft. from S and W lines of 240-ac. tract in E½ of Sur. 4 ..... Set csg. 1,939 ft.; W.O.C.
Newton, Owens & Evans' No. 1 Garza, 200 ft. to N and W line Blk. 4, Share 1, Sur. 161 ..... T.D. 150 ft.; drlg.
O. W. Killam's No. 10 A. Bustamente, 150 ft. to SE line, 200 ft. to NE line, Blk. 11, Share 5, Fansler Sub., Comitas grant ..... T.D. 1,458 ft.; comp. 100 bbls.
Pray & Chamberlain's No. 4 Garza, Blk. 1, Comitas grant ..... Derrick.
Shankle & Murray's No. 2 Cuellar, 400 ft. W line, 150 ft. to N line, Blk. 5, Sur. 61 ..... T.D. 1,400 ft.; drlg.
S. R. C. Oil Co.'s No. 5-E Trevino, 450 ft. to W line, 1,120 ft. to SW line, Blk. 12, Sur. No. 66 ..... Rigging up.
Trevino Oil Corp.'s No. 13-B Trevino, 750 ft. to S line, 150 ft. to W line, Sur. No. 412 ..... T.D. 1,240 ft.; set csg.; waiting on cmt.

KILLAM-CUELLAR POOL—ZAPATA COUNTY

O. W. Killam's No. 46-B Cuellar, 680 ft. to SW line, 4,100 ft. to E line, Sur. No. 277 ..... T.D. 1,566 ft.; comp. 75 bbls.
O. W. Killam's No. 47-B Cuellar, Sur. 277 ..... T.D. 940 ft.; drlg.

CHARCO REDONDO POOL—ZAPATA COUNTY

Bob & Richey's No. 26 Martinez, 1,460 ft. to NE line 855 ft. to SE line, Blk. 24, Duke sub. Charco Redondo grant ..... Spudded in.
Bob & Richey's No. 27 Martinez, 870 ft. to SE line, 150 ft. to NE line, Blk. 24, Duke sub. Charco Redondo grant ..... Location.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 36)

BEXAR COUNTY

Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio ..... Spudded in.
J. E. Anderson's No. 1 Suburban Irrigated Farms, 500 ft. to N line, 600 ft. to E line of C. Logan Sur. ..... T.D. 1,720 ft.; drlg.
Callahan Final Oil Co.'s No. 1 B. H. Buck, 900 ft. to E line, 2,200 ft. to S. line of farm, in J. M. McGamley Sur. ..... T.D. 650 ft.; drlg.
Eckert et al's No. 1 Edwards, 150 ft. to N and W lines of farm in Martinez Sur. ..... Rigging up.
Ingersoll-Miller's No. 3 Carruth, 3,900 ft. S. 2,500 ft. W of NE cor. of tr. in Francisco Bolen Sur. ..... T.D. 405 ft.; formation test abnd.
Dr. Ewell Neil's No. 1 J. Watson, 500 ft. from W line, 1,740 ft. from S line of B. Martinez Sur. ..... T.D. 2,250 ft.; drlg. chalk.
Schneider, Rees et al's No. 2 Claussen, 12 miles NE of San Antonio ..... T.D. 1,150 ft.; S.D.
Tri-State Oil Co.'s No. 1 E. B. Carruth, 2,500 ft. from S line, 2,560 ft. from E line of tr. in F. Bolen Sur. ..... T.D. 780 ft.
S. W. Blount's No. 1 S. A. Land Co., I. Perez Sur., 1,000 ft. to N line, 450 ft. to W line of tract ..... T.D. 500 ft.; S.D.
Van Duyn et al's No. 1 Bradden, 5,000 ft. N of Medina River, 350 ft. to E line of tract, 8 miles W of San Antonio ..... T.D. 650 ft.; drlg.

CALDWELL COUNTY

Lloyd North's No. 1 Keith McGee (previously carried as Ralph R. Lewis), 600 ft. from E and S lines of tr. in J. Pinchback Sur. ..... T.D. 2,000 ft.; drlg.
M. O. Rayor's No. 3 N. L. Dunlop, 350 ft. to NW line, 150 ft. to NE line of farm, Solomon Seal Sur. ..... T.D. 2,387 ft.; drlg.
Charles H. Wagener's No. 1 Rodenberg ..... Location.

DEWITT COUNTY

Gibson & Sturm's No. 1 Clark, Dolores Alderete Sur. ..... Rigged up; standing.

DUVAL COUNTY

Frank Gravis et al's No. 2 Schalliert, 425 ft. to E line, 150 ft. to S line of Blk. 10, Cain & Smith Subd. "A", Sur. No. 255 ..... Rigging up.
Thomas & Tarver, Inc.'s No. 1 Wood-Welder, 500 ft. to N line, 4,320 ft. to W line of Sur. No. 102 ..... T.D. 2,156 ft.; drlg. plugs.

FALLS COUNTY

Vassar & Carruth's No. 1 Farias, 890 ft. to N line, 190 ft. to W line of farm in Manchaca Sur. ..... Location.

FRIO COUNTY

A. H. Wray's No. 1 Roche, 330 ft. from N and W lines of NW SE Soc. 123, A. Hutzler Sur. ..... T.D. 3,515 ft.; drlg.

GUADALUPE COUNTY

Barnhill et al's No. 1 H. L. Hoffman, 450 ft. to N and W lines of farm, in John G. King Sur. ..... T.D. 800 ft.; drlg.
Harry Bruner's No. 2 Jim Sherrill, 330 ft. from NW and SW lines of tr. in Geo. Allen League ..... T.D. 180 ft.; temp. abnd.
M. W. Eiser's No. 1 Wells, 2,790 ft. to W line, 150 ft. to S line of farm in Jose de la Baume Sur. ..... Rigging up.
J. M. Scott's No. 1 E. Drumm, 250 ft. to W line, 150 ft. to S line of tract, C. Campbell Sur. ..... T.D. 450 ft.; drlg.

GOLIAD COUNTY

Camp & Stancliind's No. 3 Pettus, 2,438 ft. N, 74 de. E of No. 2 ..... Rigging up.
Plymouth Oil Co.'s No. 1 Parks, 5 miles NE Goliad ..... T.D. 4,912 ft.; drlg.
Neal et al's No. 1 J. M. Pettus, 10,700 ft. to S line, 2,500 ft. to E line of Pedro Trevino Sur. ..... T.D. 575 ft.; drlg.

HIDALGO COUNTY

American Petroleum Engineering Co.'s No. 1 J. B. Brock, 200 ft. from S and E lines of Blk. 15, Porcion 79 ..... Derrick.
Barrett-Kanellos' No. 1, 7 miles W and N from Mission (on Monte Cristo road) ..... T.D. 400 ft.; drlg.
LaJoya Oil & Gas Co.'s No. 1 W. L. Hart, 6 miles W from Mission, north of San Fordyce ..... Kepley to spud in by Dec. 10.
Dayle L. Smith's No. 1, 18 miles W from Edinburg ..... T.D. 4,026 ft.; standing, showing gas.

JIM HOGG COUNTY

T. P. Morgan's No. 1 fee, 2,223 ft. to N line, 1,640 ft. to E line of Share 19, Palo Blanco grant ..... Location.

JIM WELLS COUNTY

Stancliind O. & G. Co.'s No. 1 N. A. Hoffman, 6,800 ft. from S line, 10,000 ft. from W line of most easterly NE cor. of 7,000-ac. ranch in La Trinidad Sur. ..... T.D. 6,464 ft.; drlg.
Vacuum Oil Co.'s No. 1 Seeligson ..... Location.

KENDALL COUNTY

Borgett et al's No. 1 W. Haag, 3,804 ft. from N line, 1,506 ft. from W line of W. Avery Sur. ..... T.D. 1,245 ft.; S.D.
Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale ..... T.D. 2,703 ft.; standing.
Sitton et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T.D. 1,482 ft.; S.D.
Fred S. Dibble's No. 1 Eliebrach, Sur. 77, N part of county ..... T.D. 50 ft.; S.D.

KERR COUNTY

Evans & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28. T.D. 1,312 ft.; standing.
Evans & Gant's No. 2 Love, 150 ft. S and W line of Sur. 1,593 ..... T.D. 4,018 ft.; drlg.

LA SALLE COUNTY

Buckley Ranch O. & G. Co.'s No. 1 Buckley, 200 ft. from S line, 330 ft. from W line of Sur. No. 37 ..... T.D. 4,503 ft.; to deepen.

LIVE OAK COUNTY

J. A. Harper's No. 1 fee, 2,130 ft. to N line, 510 ft. to E line of farm, J. Pointevant Sur. No. 37 ..... Derrick up; moving in machinery.
Henderson Coquat's No. 1 Hewitt ..... T.D. 400 ft.; standing.
V. G. Schimmel's No. 1 Terrell in Mark Killely Sur. ..... T.D. 988 ft.; S.D.
Phillips Petroleum and Henderson Coquat's No. 1 Sanger, 150 ft. to most S of N lines, 2,000 ft. to W line of tract ..... T.D. 1,550 ft.; drlg.

LEE COUNTY

Henderson & Holden's No. 1 Dismuke, 600 ft. to E line, 150 ft. to N line of farm, J. Maxmillan Sur. ..... Rigging up.
A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. ..... T.D. 3,890 ft.; S.D.
C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur. ..... T.D. 3,300 ft.; S.D.
Chadwick et al's No. 1 Hickey, 1,000 ft. to NW line, 300 ft. to NE line of farm in Warreiman Sur. ..... T.D. 20 ft.; spudded in.

MAVERICK COUNTY

I. N. Boicourt's No. 1 Bandera, School Land ..... T.D. 2,284 ft.; standing.

McMULLEN COUNTY

Jacob, Buzzini & Pickett's No. 1 Jacob in NE part of county ..... T.D. 762 ft.; comp. 4,000,000 ft. gas.

MEDINA COUNTY

Frank A. Brown's No. 1 Fohn, 150 ft. from E line, 790 ft. from N line of J. F. Torry Sur. No. 113 ..... T.D. 932 ft.; twisted off drill stem, fishing.
Genard Bros.' No. 1 L. Crawford, 150 ft. to N and W lines of tr. in J. Keppler Sur. No. 478 ..... T.D. 2,240 ft.; S.D.
J. H. Hickey's No. 1 Jungman at N end Chicon Lake ..... T.D. 650 ft.; S.D.
Star Pet. Co.'s No. 1 Medina Valley Irrigation Co., 150 ft. from S and E lines of Isom Palmer Sur. No. 20 ..... T.D. 825 ft.; S.D.
C. J. Webster Oil & Gas Co.'s No. 1 Adams, 2,450 ft. to N line, 160 ft. to E line of Jos. Hillemeyer's No. 25. T.D. 1,430 ft.; drlg.

MILAM COUNTY

Dil-Tex Oil Corp.'s No. 1 E. Lawson, 560 ft. from NE and 270 ft. from SE lines of farm in Fernando Rodriguez Sur., near Cause ..... T.D. 2,650 ft.; standing.
H. W. Elliottt's No. 1 Marek, 767 ft. from N line, 500 ft. from W line of 160-ac. tr. in B. Wickson Sur. ..... T.D. 1,456 ft.; S.D.
Nowlen's No. 1 Beard, 1,350 ft. from SE line, 450 ft. from SW line of farm, in J. F. Guthrie Sur., 4 miles S Thorndale ..... T.D. 2,036 ft.; S.D.
Red Bank Oil Co.'s No. 2-A J. A. Foster, 5,243 ft. to SW line, 150 ft. to NW line of farm ..... T.D. 1,260 ft.; drlg.

NUECES COUNTY

Southern Crude Oil Pur. Co.'s No. 1 Chas. E. Stratton, 1,650 ft. E line, 330 ft. S line of P. Sancho Sur. ..... T.D. 4,790 ft.; coring.

REAL COUNTY

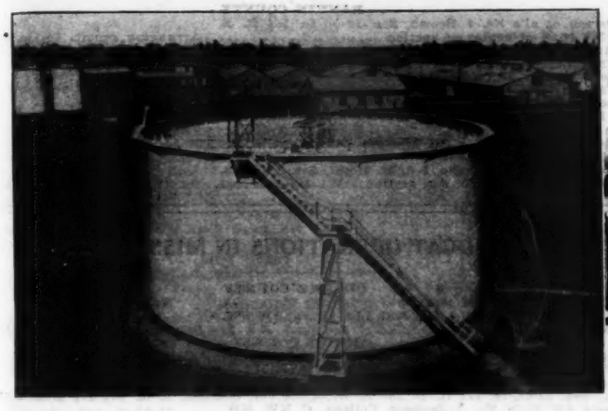
McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175 ..... T.D. 2,530 ft.; S.D.

STARR COUNTY

R. B. Suttle's No. 1 Guerra, 2,000 ft. to N line, 270 ft. to W line of Porcio 110 ..... T.D. 430 ft.; drlg.
Jess Williams' No. 1 Welsh, 1,120 ft. to W line, 1,500 ft. to N line of tract in Pedernal grant ..... Location.

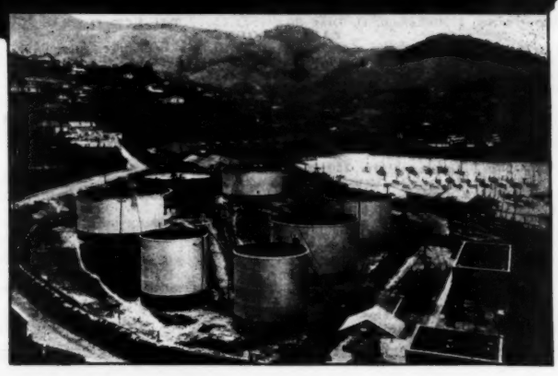
TRAVIS COUNTY

C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur. ..... T.D. 1,180 ft.; S.D.
Fuchs et al's No. 1 Shiffler, 1,000 ft. to N line, 160 ft. to E line of farm, A. C. Caldwell Sur. ..... T.D. 515 ft.; drlg.



At left: Wiggins Floating Roof on 59 ft. diameter Shell Company (Syria) Ltd., tank at Haifa, Palestine.

At right: Wiggins Roof equipped tank at Ancon, Canal Zone.



At right: Horton Tanks equipped with Wiggins Floating Roofs, Lyttleton, New Zealand.

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Birmingham	1536 Fiftieth St., N.	San Francisco	1054 Rialto Bldg.
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Ray & Henze's No. 1 Hatech, in C of tr. in S. Hamilton Sur. ..... T.D. 540 ft.; S.D.
Waldron et al's No. 1 T. Cook, 900 ft. from NW line, 3,500 ft. from SW line of D. H. Minor Sur. ..... T.D. 1,420 ft.; S.D.

WEBB COUNTY

O. W. Killam's No. 2 Reiser, 1,210 ft. to W line, 150 ft. to N line, Sur. No. 1,618 ..... T.D. 2,890 ft.; drlg.
O. W. Killam's No. 1 Bruni, 1,667 ft. to N line, 805 ft. to W line of Sur. No. 445 ..... Spudded in.
Power & Dettenhalm's No. 1 Cowan & Goss, 1,870 ft. from W line, 1,656 ft. from N line of Sur. No. 1,606.. T.D. 270 ft.; drlg.
Cole Pet. Co.'s No. 4 Benavides, 2,480 ft. to E line, 160 ft. to S line of Sur. No. 1,613 ..... T.D. 4,050 ft.; S.D.
Fansler, Johnson & Peacock's No. 1 Laurel, 425 ft. to N line, 600 ft. to E line of Blk. 10, Sur. 371 ..... T.D. 100 ft.; drlg.

WILLIAMSON COUNTY

Burns et al's No. 1 Wilder, 1,800 ft. to N line, 200 ft. to W line of tr. in H. Owens Sur. ..... T.D. 1,480 ft.; drlg.
Hays & Gee's No. 1 E. G. Johnson, 1,800 ft. from N line, 170 ft. from E line of tr. in B. C. Low Sur., S of Georgetown ..... T.D. 1,595 ft.; S.D.
McLean's No. 1 R. C. Miller, 300 ft. from S line, 150 ft. from W line of farm in Manlove Sur. ..... T.D. 1,700 ft.; S.D.
R. S. Wilson's No. 1 Speckles, 150 ft. N of road, 600 ft. from W line of farm in J. Jordan Sur., 1 mile N of Coupland ..... T.D. 1,450 ft.; S.D.

WILSON COUNTY

A. M. Blume's No. 1 Nickolson, C. Diaz Sur. ..... T.D. 1,600 ft.; S.D.

ZAPATA COUNTY

Ballard & Mercer's No. 1 Flores, 500 ft. from NE line, 580 ft. from SE line of Blk. 27, Porcion 37 ..... T.D. 600 ft.; drlg.
F. H. Etheridge's No. 1 Henne-Winch, in Sur. No. 286.. T.D. 1,900 ft.; drlg.
T. H. Ward's No. 1 Uribe, 150 ft. NW line, 150 ft. SW line, Blk. 8, Sub., Share 7, Porcion No. 6, T. Uribe Partition of Jose V. Borrego Sur. ..... Rigged up and standing.
Bill Henry et al's No. 1 Gopher Trust estate, Borrego grant ..... T.D. 1,525 ft.; dropped from report.
J. M. Gier's No. 1 Garza estate, 150 ft. to NW and SW lines, Blk. 13, C. A. Douglas Sub., M. Garza land in Comitas grant ..... T.D. 250 ft.; drlg.
Lowe, Rogers et al's No. 3 Prudencia Benavides, 510 ft. to S line, 450 ft. to W line of Blk. 16, Sur. No. 11.. Rigging up.
National Oil Co.'s No. 1 Zapata Trust estate, 647 ft. NW line, 96 ft. NE line, Blk. 97, De Prom Sub., Porcion 6 ..... T.D. 600 ft.; dropped from report.
National Oil Co.'s No. 2 Adams, 150 ft. from NW line and SW line, Blk. 11, Borrego grant ..... T.D. 1,320 ft.; dropped from report.
United Prod. Co.'s No. 10 Measles, 1,000 ft. to NE line, 1,550 ft. to SE line of Sur. No. 297 ..... T.D. 1,850 ft.; drlg.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 34)

SABINE PARISH—ZOWLLE

Coates Petroleum Co.'s No. 1 Hale, Sec. 1-7-13 ..... Set 6-in. 2,040 ft.
Crescent Drilling Co.'s No. 2 McCormick, Sec. 2-7-11.... Derrick.
Lyons & Neely's No. 1 McClanahan, Sec. 14-7-11, SE cor. SE NW ..... Derrick.
W. F. Lacy's No. 1 Holliday, Sec. 35-8-12, 330 ft. N and E, SW cor. SE NW ..... Set 6-in. 2,300 ft.
Ohio Oil Co.'s No. 13 Bowman-Hicks, Sec. 35-8-12, 2,310 ft. N, 525 ft. W, SE cor. Sec. ..... Set 6⅝-in. 2,280 ft.
Pelican Nat. Gas Co.'s No. 11 Louisiana Long Leaf Lbr. Co., Sec. 10-7-11, 330 ft. N and W, SE cor. NE NW.... Drlg. plug 2,326 ft.
Pelican Natural Gas Co.'s No. 13 Louisiana Long Leaf Lbr. Co., Sec. 4-7-11, 330 ft. N and W of SE cor. Sec.. Set 10-in. 103 ft; drlg. 1,000 ft.
Smith et al's No. 1 Hale, Sec. 1-7-13, 330 ft. S and W, NE cor. NW SE ..... Set 6-in. 2,037 ft; testing 2,065 ft.
A. F. Tarver's No. 2 Cutrer, Sec. 12-7-11, 330 ft. S and W, NE cor. NW NW ..... W.O.S.R. 2,550 ft.
O. J. Baird's No. 1 Duggan, Sec. 14-7-11, 328 ft. S, 648 ft. E, from center of Sec. ..... Drlg. 2,150 ft.
Roy Baker's No. 1 Sabine Lbr. Co., Sec. 1-7-12 ..... W.O.S.R. 2,548 ft.
W. M. Coates' No. 1 Bowman-Hicks, 330 ft. S and W, of C, Sec. 2-7-12 ..... W.O.S.R. 2,441 ft.
O. A. Gautier et al's No. 1 Mischell, 330 ft. E, 150 ft. N, SW cor. SE NW, Sec. 30-8-12 ..... S.D.; W.O. 2,532 ft.
Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 ..... W.O.S.R. 2,609 ft.
Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11 ..... Drlg. 1,930 ft.
M. J. Kissick's No. 1 Brown Lbr. Co., Sec. 1-7-11, 1,070 ft. S, 1,225 ft. E, NW cor. NE ..... Drlg. 1,000 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 ..... S.D. 1,606 ft.
Loring Oil Co.'s No. 13 Bowman-Hicks, 1,320 ft. S, 275 ft. E, NW cor. SW NW, Sec. 15-7-12 ..... Drlg. 4,174 ft.
Lyons & Neely's No. 3 Byrd, Sec. 1-7-11 ..... Dry and abd. 2,530 ft.
L. K. McGuffin's No. 1 Bush, NW cor. NW SE, Sec. 1-7-11 ..... Drlg. 500 ft.
Ben Merritt, tr.'s No. 3 Byrd, Sec. 1-7-11 ..... Drlg. 1,800 ft.
Ohio Oil Co.'s No. 11 Bowman-Hicks, Sec. 2-7-11, 330 ft. N, 990 ft. E, SW cor. NW ..... Derrick.
Ohio Oil Co.'s No. 12 Bowman-Hicks, Sec. 2-7-12, 150 ft. N and W, SE cor. NE NE ..... Completed for 20 bbls. 2,271 ft.
H. W. Perritt's No. 6 Bowman-Hicks, Sec. 2-7-12, 150 ft. S and W, NE cor. SE NE ..... S.D. 2,024 ft.

UNION PARISH

Nemours Corp.'s No. 1-C Harrell, Sec. 7-20-4e, 1,980 ft. S and E, of NW cor. ..... Set 4½-in. 2,092 ft.
Stovall Gas Co.'s No. 2 Howard, Sec. 32-20-3e, 1,320 ft. S, 1,980 ft. W, NE cor. ..... Drlg. 2,250 ft.

ARKANSAS

UNION COUNTY—EL DORADO

Ark. O. & G. Co.'s No. 4 Anderson, Sec. 31-17-15, 2,005 ft. S, 150 ft. W, NE cor. NW SW ..... Location.
Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15 ..... Dirg. salt rock 7,240 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 ..... S.D. 2,603 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13 ..... T.A. 3,586 ft.
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13 ..... Location.
Wilson & Chapman's No. 1-B Hadley, Sec. 3-18-13, 330 ft. S and W, NE cor. SE NW ..... Coring 3,588 ft.

EAST TEXAS

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, Jno. Palmer Sur. ..... S.D. 3,194 ft. (corrected).
Nat. Gas. Prod. Co.'s No. 8 Floyd, 50 ft. S and 100 ft. W from No. 1 Floyd, Ben C. Jordan Sur. ..... Drlg. lime 2,400 ft.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur.... Location.

MISSISSIPPI

HINDS COUNTY

Ferguson-Fuller et al's No. 1 Sours et al, Sec. 34-6n-1e, 665 ft. E, 50 ft. S, NW cor. SW ..... S.D. 2,368 ft.
Howie & Howie's No. 1 fee, Sec. 34-6-1e, 400 ft. E, 570 ft. S, NW cor. SW SW ..... Drlg. 2,445 ft.
Love Pet. Co.'s No. 1 Interior Lbr. Co., Sec. 3-5n-1e, 90 ft. W, 270 ft. N, SE cor. SW ..... Derrick.
Millsaps College's No. 1 fee, Sec. 34-6n-1e, 2,225 ft. N, 1,413 ft. W, SE cor. Sec. ..... Location.

RANKIN COUNTY

Anderson et al's No. 1 Brown, Sec. 12-5n-1e, 166 ft. E, 733 ft. S of center of section ..... Arranging recmt. 6⅝-in. 2,360 ft.
Cummins & Montgomery's No. 1 Ivey, Sec. 13-5n-1e, NE Lot 10, Blk. D, E. Jackson Pl., first addn. .... Derrick pattern.
Muse & Muse's No. 1 Seany, Sec. 12-5n-1e, 2,670 ft. E, 375 ft. S, NW cor, SW ..... Drlg. 975 ft.
Muse & Muse's No. 1 Wright, Sec. 12-5n-1e, 169 ft. W, 1,163 ft. N, SE cor. SW ..... Completed for 53,400,000 ft. gas 2,281 ft.
Pioneer Oil & Gas Co.'s No. 1 Green, Sec. 12-5n-1e, 180 ft. W, SE cor. SW SW ..... Rigging up.
Pioneer Oil & Gas Co.'s No. 1 C. M. Motor, Sec. 12-5n-1e, 937 ft. N and E SW cor. section ..... Set 10-in. 108 ft; drlg. 995 ft.

WILDCAT OPERATIONS IN MISSISSIPPI

CLARKE COUNTY

Company, farm and location—	Remarks:
Gulf Ref. Co.'s No. 1-A Long Bell Lbr. Co., C SW SW, Sec. 10-2n-16w	Drlg. red gummy shale 4,522 ft.

HINDS COUNTY

Atkins et al's No. 1 Crane Lawrence, Sec. 23-6n-1e, 300 ft. E, 132 ft. N, SW cor. NE SE ..... Derrick.
James Alexander, Trus., No. 1 Permanent Investment Co., Sec. 33-6n-1e, 171 ft. N, 230 ft W. of SE cor. Sec.. Set 10-in. 778 ft; drlg. 2,390 ft.
Howard Oil Co.'s No. 1 Jackson College, C NW NW, Sec. 9-5-1e ..... S.D. 74 ft.
Ridgeway & McGehee, Inc.'s No. 1 Mosal, Sec. 24-6n-1e, 200 ft. N, 100 ft. E, SW cor. of E½ SW ..... Rigging up.
Southern Pet. Co.'s No. 1 Wilson (was Tri-State O. & G. Co.'s), 330 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e ..... Set 10-in. 102 ft; drlg. 2,115 ft.
F. E. Stewart et al's No. 1 Miss. Cotton Seed Products Co., Sec. 4-5n-1e, 320 ft. S and 440 ft. W of NE cor. SE ..... Derrick.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9 ..... Drlg. 2,685 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec. ..... Derrick.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 3,015 ft.
McAlpine et al's No. 1 Cowart, second hole, Sec. 2-12-19.. T.A. 3,793 ft.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E of SW cor. SE, Sec. 25-6n-11e ..... S.D. 940 ft.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e.. S.D. 1,735 ft.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 18-5n-2e ..... Drlg. 1,835 ft.
Gulf Ref. Co.'s No. 1-A Hanna, Sec. 23-6n-1e ..... Drlg. 3,335 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e. Derrick.

SCOTT COUNTY

M. U. Culley et al's No. 2 Owens, Sec. 2-8-9 ..... Derrick.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-2 ..... S.D. 2,607 ft.
United Gas Public Service Co.'s No. 1 Tchula Co-Operative Store, 1,980 ft. W, 660 ft. N, SE cor. SE, Sec. 33-15n-3e ..... Drlg. hard sand 3,991 ft.

WEBSTER COUNTY

P. J. McAlpine's No. 1 Henly (was Cumberland Oil Co.'s No. 1 Henly), SE NW, Sec. 15-21n-11e ..... Abd. 1,800 ft.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 34)

LA SALLE PARISH

Gulf Ref. Co.'s No. 1 Tremont Lbr. Co., 668 ft. N, 632 ft. E, SW cor., Sec. 10-9n-3e ..... Dry and abd. 5,042 ft.

NATCHITOCHES PARISH

Dr. H. S. Gerson, No. 1 Smith, Sec. 11-10-8, 2,000 ft. N of NE cor of irregular Sec. 10 in Sec. 11 ..... S.D. 50 ft.
Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10 .. S.D. 1,518 ft.
R. A. Keaton's No. 1 Stephens, Sec. 25-10-6, 320 ft. N and W, SE cor. NW NW ..... S.D. 178 ft.
Mid-West Prod. Co., Inc.'s No. 1 H. Brown, Sec. 34-11-10, 200 ft. W, 230 ft. S, NE cor. SE ..... S.D. 1,185 ft.
C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10 ..... S.D. 1,380 ft.

OUACHITA PARISH

Wilson & Mitchell's No. 1 Williams, Sec. 5-16-1e, 330 ft. E, 240 ft. S, NW cor. SW SE ..... S.D. 800 ft.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11..... Spudded in; S.D. 50 ft.
Mack Jourden Co.'s No. 1 Lockett, 4,035 ft. S, 1,080 ft. E, NW cor. SW, Sec. 29, in Sec. 32-13-10 ..... W.O.S.R. 2,750 ft.

RICHLAND PARISH

Alto Gas Co.'s No. 2 Hunt, 660 ft. S and E, NW cor., Sec. 13-17-5 ..... Derrick.
National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-18n-7e ..... S.D. 2,515 ft.
Southern Carbon Co.'s No. 1-B C. M. Noble, 2,966 ft. N, 1,525 ft. W, cor. Secs. 7, 8, 17 and 18, in Sec. 37-15-6.. Location.

SABINE PARISH

Beene et al's No. 1 Eszernack, Sec. 2-7-13, 1,070 ft. S. 250 ft. W NE cor. ..... Set 10-in. 100 ft; drlg. 200 ft.
W. M. Coates' No. 1 Stille, 330 ft. N, 660 ft. W, SE cor., Sec. 35-8-13 ..... Derrick.
Davidson & Grigsby's No. 1 Martinez, Sec. 2-7-13, 330 ft. S and W, NE cor. NW SE ..... Rigging up.
Exchange Pet. Co.'s No. 1-B Louisiana Long Leaf Lbr. Co., Sec. 35-8-11, 300 ft. N and E, SW cor. NE NW.. Fishing 1,950 ft.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW, Sec. 10-8-13 ..... Drlg. shale and lime 3,956 ft.
Gehrig Oil Co.'s No. 1 Skinner, Sec. 16-8-11, 615 ft. E, 565 ft. S, NW cor. NW ..... Drlg. 2,000 ft.
T. M. LeGrand's No. 1 Peterson, 330 ft. N and E of C, Sec. 34-7-13 ..... Arranging to set 6-in. 2,243 ft.
Geo. LeGrand's No. 1 McGough, Sec. 2-8-10 ..... Derrick.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13 ... S.D. 2,039 ft.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 3-8-13 ..... S.D. 1,200 ft.

TENSAS PARISH

U. A. Duvall et al's No. 1 Martin Jacob, 150 ft. S, 150 ft. W, NE cor., Sec. 1-14-11e ..... Dry and abd. 3,060 ft.
A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 29-11-12 ..... S.D. 3,545 ft.

ARKANSAS

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, Rhea & Kitchen, Sec. 13-17-22 ..... S.D; W.O. 814 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-8 ..... Reaming 1,350 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12w .... Rigged up and S.D.

CLEBURNE COUNTY
(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... Reaming 2,050 ft.; T.D. 3,740 ft.

CRAWFORD COUNTY

Ozark Nat. Gas Co.'s No. 1 Hammond, C SE SE, Sec. 29-10-29 ..... S.W. and abd. 2,560 ft.

DALLAS COUNTY

E. C. Brewer's No. 1 W. E. Hillman, 330 ft. E, 40 ft. S, NW cor. SE NE, Sec. 20-10-13 ..... S.D.; W.O. 2,869 ft.
J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. NE, Sec. 11-9-15 ..... S.D. funds 2,520 ft.
Zapp O. & G. Co.'s No. 3 Hillman, Sec. 20-10-13, 180 ft. N, 450 ft. E, SW cor. NW NE ..... Location.

DREW COUNTY

Co-Operative Development Co.'s No. 1 Ogles, Sec. 35-15-5, 330 ft. S and E, NW cor. NE NW ..... Resetting 10-in. csg.; T.D. 1,250 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 ..... S.D. 1,300 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW, Sec. 5-8-7 ..... S.D. 2,800 ft.

OUACHITA COUNTY

Wilson & Chapman's No. 1 Lambert, Sec. 10-15-16, 600 ft. S, 150 ft. E, NW cor. SE SE ..... Set 10-in. 200 ft; drlg. 1,250 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-13-29 ..... Location.
Stephens et al's No. 1 Dierke Lbr. Co., Sec. 29-12s-31w, 150 ft. S, 330 ft. E, NW cor. NE NW ..... Rigging up.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 ..... S.D.; W.O. 3,570 ft.

MILLER COUNTY

W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27 ..... S.D. 1,955 ft.

OUACHITA COUNTY

Copenhaven et al's No. 2 Berg, C SE SE, Sec. 13-15-17 ... S.D. 2,011 ft.
M. S. M. Oil Co.'s No. 4 Arnold & Doyle, Sec. 23-16-15, 200 ft. S and E, NW cor. SW SE ..... Washing cmt. out of liner 2,096 ft.

PIKE COUNTY

E. R. Henderson's No. 1, Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14 ..... T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24 ..... S.D.; W.O. 1,020 ft.
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor., Sec. 13-9-23 ..... S.D. 338 ft.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW, Sec. 3-4n-6w ..... Partly rigged up and S.D.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26 ..... S.D.; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 ..... S.D. 1,860 ft.

SEVIER COUNTY

Tristate Oil Co.'s No. 1 McCown, Sec. 34-8-32, S½ SW ... Rigging up.

UNION COUNTY

Drillers Oil & Dev. Co.'s No. 1 Pickering, 220 ft. N, 668 ft. E, SW cor. NW NE, Sec. 1-17-16 ..... Plugging hole 2,134 ft.
H. H. Helms' No. 1 C. H. Murphy, NE cor. NW NE, Sec. 31-16-14 ..... Rigging up.
Sunby et al's No. 2 Perdue, Sec. 33-16-14, 75 ft. S, 150 ft. E, NW cor. Sec. ..... W.O. 3,247 ft.

WASHINGTON COUNTY
(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... S.D. for funds 1,795 ft.

YELL COUNTY
(Cable tools)

Tegmeir & Luckett's No. 1 Falcon, Sec. 36-7-21 ..... S.D. 5,710 ft.

EAST TEXAS

BOWIE COUNTY

Hindeman & Bell's No. 1 Merritt (was Maud-Redwater Oil Co.'s), 175 ft. N, 175 ft. E, SE cor. G. W. Hardidge 100-ac. tr. on Floyd Merritt tr. in T. S. McKinney Sur. ..... Reaming 3,442 ft.
Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. ..... S.D. 4,505 ft.
Tarkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... S.D. 1,880 ft.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. ..... S.D. 3,000 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr. in J. H. Murphy Sur. ..... S.D. 3,600 ft.

CASS COUNTY

J. F. Morrisey's No. 1 T. J. Wilson, 1,088 ft. S of N line, 2,376 ft. E of W line of H.R.S., J. R. McFarland Sur. ..... S.D. 3,670 ft.
Davis & Pigg's No. 1 Roy Bryan, SW cor. Roy Bryan 33-ac. tr., Albert H. Latimer Sur. ..... S.D. 2,055 ft.
Everets Drlg. Co.'s No. 1 H. W. Whittington, 200 ft. S and W, NE cor. 69-ac. Whittington tr., L. Strong Sur. ..... S.D. 3,922 ft.
Geo. McKamie's No. 1 R. E. Hall, 150 ft. N, 150 ft. W, SE cor. Hall's 117-ac. tr., H. Buckler Sur. ..... S.D. 4,195 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. .... S.D. 2,280 ft.
Olds & King's No. 2 Anthony, John C. Byers Sur. .... S.D. 1,750 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. ..... S.D. 955 ft.

HARRISON COUNTY

Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. ..... S.D. 4,025 ft.
Ryan Consolidated Pet. Corp.'s No. 1 J. M. Fuhr, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur.... Derrick.

MARION COUNTY

Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S. most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. ..... S.D. 2,380 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. ..... Derrick.
Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur.... Spudded and S.D.
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. ..... S.D. 1,882 ft.
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in Jas. Hanks Sur. ..... Drlg. chalk 2,340 ft.
United Gas Public Service Co.'s No. 11 Werner, 1,162 ft. N, 2,418 ft. W, SE cor. D. B. Lewis Sur. ..... Drlg. shale and lime 5,236 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. .... S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. .... S.D. 2,280 ft.

SHELBY COUNTY

Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. .... D.S. stuck 2,140 ft.
Harry Elliott's No. 1 Pickering Lbr. Co., 1,000 ft. N, 150 ft. E, SW cor. 361-ac. tr., G. H. Patterson Sur.... Set 10-in. 108 ft.
K. H. Francis' No. 1 John Mims, Mary Smith Sur. ..... Drlg. 3,255 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E, SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. ..... S.D. 2,600 ft.
Henry Maulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. ..... S.D. 3,246 ft.
McRoby et al's No. 1 Windham, Wm. Leach Sur., on Windham 396-ac. tr. ..... Set 6⅝-in. 3,366 ft.
Ridgeway et al's No. 1 Polley, Domingo Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. ..... Set 8-in. 822 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. ..... S.D. 20 ft.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur. ..... S.D. 3,457 ft.
United North & South Prod. Co.'s No. 1 Windham, 300 ft. W, 1,050 ft. N, SE cor. of Windham 171.5-ac. tr. on A. H. English Sur. ..... S.D. W. O. 3,391 ft.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 39)

Sun Oil Co.'s No. 12 Wilburn, Wm. Hodges Sur., 50 ft. from N line and 75 ft. W of No. 11 ..... Drlg. rock 2,597 ft.
Sun Oil Co.'s No. 2 Winfree (W.O.), W. D. Smith Sur., 50 ft. from SW line and 150 ft. of S line..... Cutting out screen 5,359 ft.
The Texas Company's No. 2 Lawrence, Henry Griffith League, 240 ft. from E line and 412 ft. from N and S lines of strip ..... Set 22½ ft. 4½-in. screen 4,425 ft; completed flowing 90 bbls. P.L. oil.

HUMBLE—HARRIS COUNTY

Southern Coastal Oil Co.'s No. 3 Perkins, John Jones Sur., 150 ft. N of No. 2 ..... Derrick.
Sun Oil Co.'s No. 25 Bender, W. B. Adams Sur., 1,155 ft. from C of R.R. on an extension of the N line of the Bender North Addition and 8 ft. S ..... Salt 3,268-98 ft.; plugged to 2,850 ft.; set 111 ft. of 4½-in. screen; pumped water; shut down.
Sun Oil Co.'s No. 26 Bender, W. B. Adams Sur., 310 ft. W, 20 deg. N of No. 25 ..... No report.
The Texas Company's No. 37 Koehler, J. B. Stevenson Sur., 717 ft. E and 603 ft. S of NW cor. of SW fee tract ..... T.D. 3,866 ft; cmtd. to 2,950 ft.
The Texas Company's No. 46 Stevenson fee, 1,630 ft. N and 1,690 ft. W of SE cor. of J. B. Stevenson Sur.... Drlg. shale and boulders 4,510 ft.

PORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 260 ft. E and 1,545 ft. S of SW cor. Marshall Beaucham Sur., in the T. J. Notgrass Sur. ..... Drlg. wtr. sand 3,837 ft.
The Texas Company's No. 2 Kuhn, 587 ft. S and 150 ft. W of NE cor. of the Mary E. Hall Sur. No. 2 .... Location.

BIG CREEK—FORT BEND COUNTY

Gulf Prod. Co.'s No. 62 Davis, M. Young Sur., 400 ft. NE of No. 19 and 600 ft. SE of No. 57 ..... Drlg. gumbo 3,000 ft.

HULL—LIBERTY COUNTY

Daisetta and Liberty Oil Co.'s No. 1 Bashara (W.O.).... T.D. 3,880 ft; sidetracking 3,790 ft.
Wenesedan Oil Co.'s No. 2 Palmer, Chas. Underton Sur. .. Rigging up to pump 2,225 ft.
Sun Oil Co.'s No. 10 Carr ..... Completed flowing 50 bbls. net oil 1,930 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 34 Taylor, James Hamilton Sur. No. 52, 141 ft. S of NW cor. of J. W. Howe 130-acre tract and 430 ft. W at right angles ..... Spudded.
Humble Oil & Ref. Co.'s No. 1 Hooks, James Hamilton Sur. No. 52, 904 ft. N of SW cor. along W line of lease and 396 ft. E at right angles ..... Spudded.
Navarro Oil Co.'s No. 3-A Cain (W.O.), James Hamilton Sur. No. 98, 458 ft. from N line and 65 ft. from W line of tract ..... Perforating 4½-in. liner 3,964 ft.
Rio Bravo Oil Co.'s No. 10-A Settegast (W.O.), Jos. Kopman Sur. No. 44, 1,200 ft. S and 350 ft. W of NE cor. of lease ..... No report.
Rio Bravo Oil Co.'s No. 18-A Settegast, J. Kopman Sur. (W.O.) ..... No report.
Rio Bravo Oil Co.'s No. 23-A Settegast, Jos. Kopman Sur. No. 44, 1,375 ft. S and 200 ft. W of NE cor "A" lease ..... Rig.
Southern Pet. Co.'s (Tilton et al) No. 1 N. C. Barnes, B.B.B.&C. Sur. No. 1,028, 15 ft. from N line and 25 ft. from W line of Blk. 49, Jones Subd. ..... Sand 4,289-4,409 ft; completed flowing 716 bbls. P. L. oil first 24 hrs.; 360 lbs. pressure, ⅝-in. choke.
Warner-Quinlan Co.'s No. 1 Minchen (W.O.), B.B.B.&C. Sur. No. 1,028, Blk. 7 ..... No report.

BLUE RIDGE—FORT BEND COUNTY

Coronado Oil Co.'s No. 2 Blakely, 430 ft. W, 575 ft. N of SE cor. of Lot 8, Blk. D, E. Drew Sur. ..... No report.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 20 Cade, N. Fitzsimmons Sur., 161 ft. W of No. 15 and 146 ft. SW of No. 17 ..... Shut down 60 ft.
Yount Lee Oil Co.'s No. 23 Cade, N. Fitzsimmons Sur., 300 ft. S of No. 22 ..... No report.
Yount Lee Oil Co.'s No. 24 Cade, 1,010 ft. from NE line and 1,250 ft. from NW line of N. Fitzsimmons Sur. .. No report.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 6 Wisdom (D.D.), A. Darst Sur., Blk. 51, 2,550 ft. from NE line and 1,150 ft. from NW line of 340-acre tract ..... Drlg. sand and shale 3,500 ft.
Intercoastal Oil Co.'s No. 8 Wisdom, 155 ft. from NW line and 150 ft. from NE line, Lot 52, Blk. D, Wisdom Subd., A. Darst Sur. ..... Set 30 ft. of 6⅝-in. screen 3,588 ft; completed flowing 1,000 bbls. P.L. oil, ⅝-in. choke.
The Texas Company's No. 1 Cave heirs, 75 ft. SW, 150 ft. SE at right angles from N cor. of Lot A, Blk. 73, Wisdom Subd., A. Darst League ..... Gumbo 1,289 ft; cmtd. 10-in. csg.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 31 Moore, 3,816 ft. S and 2,432 ft. W of NW cor. of James Frazier Sur. in Mark Smith Sur. ..... Drlg. gumbo 656 ft.

LOCKWOOD—FORT BEND COUNTY

Cullen & West and Gulf Prod. Co.'s No. 1-A Lockwood & Sharp (D.D.), John Rabb Sur. ..... Drlg. shale 3,138 ft.
Cullen & West and Gulf Prod. Co.'s No. 4-A Lockwood & Sharp, J. Rabb Sur., 550 ft. W of No. 2-A ..... Derrick.
Cullen & West and Gulf Prod. Co.'s No. 2 H. P. Lockwood, J. Rabb Sur., 300 ft. N and 900 ft. W out of SW cor. 333-acre tract ..... Sand showing oil 5,130-80 ft; cmtd. 6⅝-in. csg. 5,115 ft.
Cullen & West and Gulf Prod. Co.'s No. 1 J. H. P. Davis, Robert Peebles Sur., 350 ft. S and 900 ft. E of SW cor. of A. P. George 619-acre tract ..... Drlg. hard lime 3,915 ft.
Gulf Prod. Co.'s No. 1 Mary D. Booth Meyers, J. Rabb Sur., 800 ft. N of Cullen & West's No. 2-A Lockwood & Sharp ..... Drlg. shale and lime 3,598 ft.

NASH—BRAZORIA COUNTY

Harrison & Abercrombie's No. 15 Nash (D.D.), Thos. Alsbury League ..... Cutting screen to deepen 4,844 ft.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 123-A Cotton ..... Sand showing oil 540 ft.

MARKHAM—MATAGORDA COUNTY

Deering & Newman's No. 1 Hawks (W.O.), W. H. Gayner Sur., 200 ft. from S line and 100 ft. from E line of tract ..... T.D. 4,150 ft; set whipstock to sidetrack.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 6 Lost Lake, 2,381 ft. W and 289 ft. S of No. 5 in Lost Lake ..... Drlg. sticky shale 6,030 ft.

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MOSS BLUFF—LIBERTY AND CHAMBERS COUNTIES

Gulf Prod. Co.'s No. 4 McFaddin, J. McFaddin Sur.... Drlg. dry sand 6,332 ft.

REFUGIO—REFUGIO COUNTY

Larco Gas Co.'s No. 4 Strauch heirs, 150 ft. from N line and 150 ft. from W line, Lot 6, Blk. 2 ..... Topped sand showing oil 3,683 ft. cmtd. 6⅝-in. csg.

Mission Drilling Co.'s No. 3 J. J. O'Brien, Refugio town tract, 150 ft. from N line, 150 ft. from E line of 12½-acre tract ..... Sand showing oil 6,450-58 ft.; cmtd. 5-in. csg.

Moody Seagraves Prod. Co.'s No. 2-A St. John, Refugio town tract, 600 ft. E of No. 1-A and 300 ft. from N line of lease ..... Sand showing oil 5,504-18 ft.; cmtd. 6⅝-in. csg. 5,505 ft.

United Prod. Corp.'s No. 2-A W. J. Fox, Wm. Hews and L. Brown Sur., 2,099 ft. NE along SE line from SE cor. of lease, thence 1,690 ft. NW at right angles ... Drlg. sticky shale 6,099 ft.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Union Sulphur Co.'s No. 1 H. J. Moss (D.D.), Sec. 8-10s-9w ..... Deepened from 4,814 ft. to 4,844 ft; set 1 jt. 4½-in. screen; completed flowing 800 bbls. fluid, 20% wtr., 420 lbs. pressure, ½-in. choke.

Vacuum Oil Co.'s No. 32 Miller, 925 ft. E and 480 ft. S of NW cor. S half of NW of Sec. 9-10s-9w ..... Drlg. sand with streaks of lime 2,438 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. E and 1,070 ft. N of SW cor., Sec. 47-9s-2w ..... Tested dry 7,835 ft.; cutting out screen to deepen.

SORRENTO—ASCENSION PARISH

Gulf Ref. Co.'s No. 20 United Land Co., 4,040 ft. N and 760 ft. W SE cor. Sec. 15-10s-4e ..... Drlg. hard sandy lime 4,902 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 23 Watkins (W.O.), 2,495 ft. W and 132 ft. N of SE cor. Sec. 13-12s-10w ..... Rig up to deepen 2,844 ft.

Calcasieu O'l Co.'s No. 27 Watkins (D.D.), 1,150 ft. N and 1,590 ft. W, SE cor., Sec. 13-12s-10w..... Deepened from 2,982 ft. to 2,991 ft; completed flowing 2,000 bbls., ¾ and ⅞-in. chokes, 250 lbs.

Calcasieu Oil Co.'s No. 29 Watkins, 1,483 ft. W and 1,206 ft. N of SE cor. of Sec. 13-12s-10w ..... Set 1 jt. 4½-in. screen 2,997 ft; completed flowing 3,000 bbls. P.L. oil.

R. E. Seiss' No. 3 Vincent, 2,195 ft. S and 1,220 ft. W of NE cor. Sec. 30-12s-10w ..... Location.

R. E. Seiss' No. 2 J. M. Vincent ..... Shut down 2,163 ft.

J. G. Sutton's No. 3 Irwin, 1,520 ft. N and 1,395 ft. W of SE cor. of Sec. 13-12s-10w ..... Set 1 jt. 4½-in. screen 2,991 ft; completed flowing 1,300 bbls. P.L. oil, 160 lbs.

Yount Lee Oil Co.'s No. 44 State, 1,110 ft. N and 1,915 ft. W of SE cor. Sec. 13-12s-10w ..... Location.

Yount Lee Oil Co.'s No. 45 State, 1,220 ft. N and 810 ft. W of SE cor. Sec. 13-12s-10w ..... Location.

Yount Lee Oil Co.'s No. 47 State, 1,420 ft. N and 1,408 ft. W of SE cor. Sec. 13-12s-10w ..... Sand 2,973-99 ft; set screen.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 9 Gray (D.D.) ..... Set 50 ft. 4½-in. screen; bailing.

Vinton Pet. Co.'s No. 1 Matilda Gray (D.D.), 48 ft. N and 89 ft. W, SE cor. SW NE, Sec. 33-10s-12w... Rig up to deepen 3,149 ft.

EDGERLY—CALCASIEU PARISH

Emerson et al's No. 14 Hunter, 1,100 ft. N of NE cor. Bright Penn lease, 850 ft. E of No. 10, Sec. 21-9s-11w. Drlg. gumbo 602 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 767 fee, 328 ft. E and 180 ft. N of C of Sec. 29-9s-10w ..... Oil sand 3,737-45 ft; set 1 jt. screen; completed 1,500 bbls. 200 lbs. pressure, ⅝-in. choke.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 5 Sweet Lake (D.D.), Sec. 12-13s-8w .. Drlg. hard sand 5,372 ft.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

O'Hara Oil & Gas Co.'s No. 1 Nelious, J. C. Cummings Hacienda Sur., 650 ft. N of No. 1 Schroeder in 18-acre tract, north edge Mill Creek ..... Derrick.

Pomacal & Boletka's No. 1 Schebajsa, 329 ft. N, 78 deg. E of N. cor. B. Dottery Sur., near center of SW line of S. F. Austin 4 League on west fork of Mill Creek.. Set 10-in. casing 120 ft.

BRAZORIA COUNTY

W. D. Southerland's No. 1 C. W. Chapman, Andrew Robinson Sur., 294 ft. from S line, 104 ft. from E line of Strip 2 ..... Drlg. hard sand 856 ft.

The Texas Company's No. 2 Belcher, Harvey N. Little Sur., 1,725 ft. southeasterly from N cor. of S half of Sur., along NE line and thence 123 ft. at right angles ..... Drlg. gumbo 845 ft.

United Oil Syndicate's No. 1 Levitt, 900 ft. from W line and 400 ft. from S line of John Peske Sur. ..... Total depth 1,594 ft. in gumbo; drill stem stuck.

BURLESON COUNTY

Marek & Son's No. 3 A. Marek, N. McFaddin Sur., 1,063 ft. N and 225 ft. W of SE cor. of tract ..... No report.

M. O. & T. Corp.'s No. 1 Rigers ..... No report.

FORT BEND COUNTY

Stone & Wyman's No. 1 Beard, H.&T.C. Sur. No. 118, 1,150 ft. from NW line and 1,892 ft. from NE line ... Shut down 1,275 ft.; 2 joints drill stem lost in hole.

GRIMES COUNTY

Rianjo Oil Co.'s No. 2 Cuthrell, Pat B. O'Connor Sur., C of 110-acre tract ..... Shut down for fuel 3,534 ft.

HARRIS COUNTY

Givens & Daybault's No. 1 Lobit, David Middleton Sur., Blk. 19, Lobit Subd. ..... S.D. 2,600 ft.

Humble Oil & Ref. Co.'s No. 5 Minnetex, Mykawa, 150 ft. from S line and 200 ft. from W line, Lot 261, Wm. Lovett Sur. ..... Location.

Louisiana Oil & Dev. Co.'s No. 1 J. W. Wilson, W. Ritchie Sur. ..... Shut down 420 ft.

Shubert & Alexander's No. 1 Herman Hale, 1,058 varas E of NW cor. R. A. Hanks Sur., thence 790 varas S and thence 70 varas W 74 deg. ..... S.D. for fuel 2,620 ft.

JACKSON COUNTY

Chicago-Gulf Oil Co.'s No. 9 Drushell, Edna F. Rodriguez Sur., 1,050 ft. N, 58 deg. E No. 8 ..... Gas sand 2,640-46 ft.; completed dry gas well, 850 lbs., 3-32-in. choke.

JASPER COUNTY

Hext Drlg. Co.'s No. 1 Flourney, B. F. Jones Sur., 600 ft. NW of Helmerich & Payne's No. 1 Flourney .... No report.

JEFFERSON COUNTY

Humble Oil & Ref. Co.'s No. 1 Nelson, Wm. Rice Sur., 550 ft. from N line and 50 ft. from E line of W half of 1,071-acre tract ..... Drlg. shale 6,447 ft.

John I. Pipkin and Klam's No. 1 Broussard, McGaffey Sur., 800 ft. from S line in center E and W of 205-acre tract ..... Shut down in gumbo 500 ft.

Texas Gulf Sulphur Co.'s No. 1 Junker, W. H. Smith League, 100 ft. S and 1,000 ft. W of NE cor. of tract.. Sulphur test.

Texas Gulf Sulphur Co.'s No. 1 Thomas Fannett, Wm. Smith Sur., 1,950 ft. W, 1,600 ft. S of NE cor. of Thomas' 446-acre tract ..... Sulphur test.

Westbury Oil Co.'s No. 4 West, 450 ft. W and 4,210 ft. S of NE cor. of T. D. Yoakum Sur. ..... Shut down in gumbo 600 ft.

LIBERTY COUNTY

L. B. House's (I. R. Ingram) No. 1 C. T. Palmer, James Fenner Sur., 1,000 ft. from W line and 850 ft. from S line of tract ..... Abd. 3,620 ft.

Hamm et al's No. 1 Harvard, Davis Hill ..... Gumbo 1,015 ft.; shut down.

MATAGORDA COUNTY

United North & South Oil Co.'s No. 1 Stoddard, J. C. Keller Sur., 150 ft. W and 545 ft. N of SE cor. Blk. 53, Buckeye townsite ..... Shale 5,543 ft.; sidetracking junk 5,400 ft.

Harvey Smith's No. 1 Baker (Citrus Grove), J. V. Criswell Sur., Robbins Subd., 2,000 ft. S and 2,000 ft. E of NW cor. of Lot 14 and Lot 15 ..... Drlg. gumbo 4,556 ft.

MONTGOMERY COUNTY

Pevehouse Oil Co.'s No. 1 Sealey, Jas. Pevehouse Sur., 1,575 ft. N of N line of Horton & Woodson's 1,562-acre tract and 2,226 ft. E of W line of H.&W. 1,870-acre tract ..... S.D. 1,856 ft.

Humble Oil & Ref. Co.'s No. 1 W. A. Renn, 750 ft. from N line and 900 ft. from E line of S. J. McFarland Sur. ..... Drlg. shale 5,322 ft.

Drake et al's No. 1 South Texas Dev. Co., 465 ft. in westerly direction along N line of Theo. Slade Sur. from SW cor. of A. McGowan Sur., and thence 750 ft. in southerly direction at right angles from said line in Slade Sur. ..... Sandy shale showing some oil and wtr., reported 4,900-87 ft; setting 7⅝-in. csg.

Stanolind Oil & Gas Co.'s No. 1 R. M. Gary, Jacob Shannon Sur., 150 ft. SW of SW cor. D. Pitts 91-acre tract in R. M. Gary 633-acre tract ..... Location.

NEWTON COUNTY

R. T. Briscoe et al's No. 1 Joe Inman, approx. 1,900 ft. E and 500 ft. N of SW cor. of J. M. Scott Sur. ..... No report.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract ..... Total depth 4,063 ft.; sidetracked 1,200-2,200 ft.; shut down.

Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1 ..... Shut down 2,050 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman ..... Shut down 3,162 ft.

T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271 ..... Shut down 1,517 ft.

Trans-Coastal Oil Co.'s No. 1 M. E. Roberts, J. F. Rumayor Sur., 350 ft. from W line and 150 ft. from N line of tract ..... Shut down 734 ft.

REFUGIO COUNTY

Blanco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 14, Bonnie View Ranch Subd. ..... Shut down 4,627 ft.

J. C. Dixon's No. 1 Peck, 450 ft. S, 150 ft. E of NW cor. of S half of Sec. 24, Bonnie View Ranch Subd., Estaban Lopez Sur. ..... Cmtd. 12½-in. csg. 100 ft; standing.

Humble Oil & Ref. Co.'s No. 1 O'Connor, John Keating Sur., 6,012 ft. S from NE cor. along SE line of Lon T. Ross Sur., thence 7,375 ft. W at right angles in John Keating Sur. ..... Sand showing oil 4,127-55 ft; set 34 ft. screen; completed flowing 90 bbls. an hr.; estimated good for 2,000 bbls. daily, ⅝-in. choke; 800 lbs. on csg. and 200 lbs. on tubing; R.P. 1,350 lbs.; gravity 24; shut in for storage.

SAN JACINTO COUNTY

E. P. Edwards' No. 1 J. R. Bennett, Cold Springs ..... Shut down 750 ft.

TRINITY COUNTY

Scientific Producers Co.'s No. 1 Thompson, I.&G.N. Sur. No. 47, 50 ft. out of NE cor. of H. K. Thompson 199-acre tract ..... Rig.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell ..... Sand and shale showing oil 1,251 ft.; cem. 6-in. casing 1,218 ft standing.

Allied Pet. Co.'s (Texas Southern Pet. Co.) No. 3 Wilson, Mrs. E. Cherry Sur. No. 798, 1,500 varas from W line and 600 varas from N line ..... S.D. 5,025 ft.

VICTORIA COUNTY

Bunte et al's No. 1 Keeran, 3,714 ft. NE along railroad from SW line of Martin DeLeon Sur., and thence 1,600 ft. NW at right angles ..... Drlg. hard sand 4,243 ft.

Houston Oil Co.'s No. 1 Conrad, T.&N.O. Sur. No. 1, 1,100 ft. from SW line and 100 ft. from NW line ..... Heaving shale 5,290 ft.

The Texas Company's No. 3 McFaddin, S 15 deg. W 6,200 ft. and N 75 deg. W 1,850 ft. out of NE cor. John M. Rine Sur. ..... Drlg. shale and lime 5,686 ft.

WALKER COUNTY

Hart Oil Co.'s No. 1 Thompson Lbr. Co., Jose Ortega Sur., 1,265 ft. S, 1,876 ft. W of SW cor. of J. B. Gibson's 71-acre tract ..... Drlg. hard rock 1,542 ft.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 150-acre tract ..... No report.

WASHINGTON COUNTY

Moon & Yeager's No. 1 Hahn, 500 ft. from N line and 1,852 ft. from W line of J. H. Alcorn Sur., Abst. 3.. Drill stem stuck 3,636 ft.

Penn-Tex Oil Co.'s No. 2 Kamah Brenham, S. M. Williams Sur. ..... Lime and anhydrite 3,550 ft.

SOUTH LOUISIANA

ASCENSION PARISH

McElroy Pet. Co.'s No. 2 Lacey, 150 ft. S, 150 ft. W of NE cor. of Sec. 29-10s-4e ..... S.D. 4,515 ft.

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w ..... Shut down 875 ft.

L. O. Davis' No. 1 Industrial, Sec. 29-9s-10w ..... Standing 6,568 ft.

Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... Shut down 3,650 ft.

Success Oil Co.'s No. 1 Hewitt, 90 ft. out of SW cor., Sec. 11-9s-11w ..... Rig.

EVANGELINE PARISH

Emile LeDeau's No. 1 Vidrine, 360 ft. W and 350 ft. S of NE cor. of Sec. 47-3s-2e ..... Derrick.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 25 Lake Peigneur, Sec. 58-12s-5e, 400 ft. N of No. 24 ..... Sulphur test.

IBERVILLE PARISH

Standard Oil Co.'s No. 2 Myrtle Grove-Wilbert, Bayou Choctaw, 2,040 ft. N and 600 ft. W of C of Sec. 52-9s-11e ..... Building derrick.

Standard Oil Co.'s No. 3 Gay, Bayou Choctaw, 4,500 ft. N and 600 ft. E of SW cor. SE of Sec. 52-9s-11e .... Drlg. gumbo 1,200 ft.

Standard Oil Co.'s No. 4 Schwing, Bayou Blue, Sec. 73-9s-11e, 317 ft. S of No. 2 ..... Fishing drill stem 6,103 ft.

LA FOURCHE PARISH

State Prod. Co.'s No. 1-B Stark, 1,921 ft. E and 1,540 ft. S of NW cor. of Sec. 71-15s-15e ..... Sulphur test.

The Texas Company's No. 3 La.L.&E., Leesville, 4,439 ft. S and 468 ft. E of NW cor. Sec. 28-21s-22e ..... Drlg. lime rock 3,115 ft.

PLAQUEMINES PARISH

Humble Oil & Ref. Co.'s No. 5 Cockrell-Moran, Lake Grand Ecaille, 10,277 ft. N and 2,614 ft. W of NE cor. of Twp. 21s-26e ..... Location

Humble O. & R. Co.'s No. 7 Cockrell-Moran, Sec. 14-20s-26e, 400 ft. S of No. 4 ..... Location.

POINTE COUPEE PARISH

Grand Bay Oil & Gas Co.'s No. 1 Moniotte, 10,140 ft. S and 12,450 ft. E of NW cor. Twp. 5s-11e in Sec. 94... Water sand 200 ft.

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TERREBONNE PARISH

La. Gas & Fuel Co.'s No. 2 Minor, 3,480 ft. S and 1,980 ft. E of NW cor. Sec. 3-18s-16e ..... Cored sand showing gas 3,878-82 ft.; drill stem test estimated 3,000,000 ft. dry gas; cmtd. csg.

The Texas Company's No. 2 La.L.&E., Bay Junop ..... Drlg. sandy shale 6,315 ft.

The Texas Company's No. 4 La.L.&E., Bay Junop ..... Location.

The Texas Company's No. 5 State, Lake Felto, 1,605 ft. N and 1,539 ft. W of SE cor. of Sec. 3-23s-18e..... Bldg. derrick.

The Texas Company's No. 10 State, Lake Barre ..... Location.

The Texas Company's No. 12 State, Lake Barre ..... Location.

The Texas Company's No. 14 State, Lake Barre ..... Location.

The Texas Company's No. 1 La.L.&E., Lake Barre, 2,645 ft. S and 595 ft. E of NW cor. Sec. 30-21s-20e ..... Spudded.

VERMILLION PARISH

Pure Oil Co.'s No. 2 Southwest Louisiana Land Co., 1,300 ft. E and 300 ft. S of NW cor. Sec. 4-12s-1w ..... Abd. in tough sticky shale 3,007 ft.

WEST FELICIANA PARISH

Putnam Syndicate's No. 2 Como Plantation, Sec. 51-1s-4w. Drlg. hard lime 2,445 ft.

CANADIAN FIELDS

(Continued from Page 43)

sands. There is a chance of additional light crude in the Dalhousie, while the test will probably be continued to the Madison lime horizon, where crude naphtha is looked for. The test, originally started by Hylo Oils, Ltd., of Calgary is being completed by a syndicate of Calgary men including S. G. Carscallen, W. Fay Becker and Clarence Snyder.

Miracle Oils' No. 3, LSD 11, Section 4-19-2w5, is drilling around 5,000 feet and getting close to the Dalhousie. Miracle's No. 2, LSD 16, Section 5-19-2w5, is standing at 5,558 feet, and will be completed after No. 3 is brought in.

Central Turner Valley

Central Turner Valley has three independent tests in progress, including McLeod Oil Co.'s No. 4, LSD 16, Section 1-20-3w5, which is making an important test of the lower horizons of the lime. McLeod Oil Co. has drilled five producing wells in this section, but has had to deepen them to maintain production. In deepening No. 4 a couple of years ago, a second producing horizon was met around 1,250 feet in the lime. The test is now being carried still deeper to determine the production possibilities of heretofore unexplored horizons in the lower lime.

In the same LSD, W. E. McLeod and Hugh Walsh are completing Regent Oil Co.'s No. 3, and drilling below 3,650 feet. Farther south, Dome Oils' No. 2, LSD 16, Section 36-19-3w5, is in the lime at 5,390 feet and at last reports was waiting for a shot.

North Turner Valley

Though North Turner Valley has shown less in the way of results than the central and southern sections of the field, it has two producing wells. Model Oils' No. 1, LSD 8, Section 22-20-3w5, is different from the ordinary Turner Valley wells in that its production from the deep lime grades is light crude oil, and there is relatively little gas accompanying it. This well has maintained a production around 100 bbls. a day or better. Foothills Oil & Gas Co.'s No. 1 is the other producer. United Oils' No. 4, LSD 2, Section 24-20-3w5, recently established a new depth record for Canada by reaching 6,662 feet, at which depth it had passed out of the Madison lime into what appeared to be a recurrence of the Benton shale. No production having been secured in the lime, a light crude sand in the Dalhousie will be given a shot.

The North Turner Valley area has an exceptionally large proportion of unfinished tests. Numerous locations were made three or four years ago, and a number of these wells were drilled to considerable but not conclusive depths. It is unlikely that any of these unfinished tests will be resumed.

Operations in the Foothills

At the height of the Alberta drilling activity, many operators shifted their attention from the Turner Valley, where close-in territory was pretty well tied up, to various structures in the foothills where conditions were apparently similar and where it was regarded likely new fields of a similar nature might be opened. Drilling operations since then have more or less definitely eliminated a number of these fields, though in no case have the tests been sufficiently comprehensive to absolutely condemn any field.

The most active of these fields was probably the Highwood structure, south of Turner Valley. On this structure at least three tests actually entered the lime. Shows of gas and crude oil were secured, but no large commercial production. On the Morley Reserve structure, half a dozen tests were started and one got through the Madison and into the Devonian lime, encountering some wet gas, but also failing to get commercial production. The Black Diamond and Waite Valley structures revealed faulted conditions in the pioneer tests, which resulted in discontinuance of other operations. On the Herron structure, Herron Petroleums' No. 1 got into the lime but is reported to have encountered salt water; and on the related Moose Dome structures, Moose Oils' No. 1 which started in the Madison and entered the Devonian at shallow depth got encouraging shows but has for some time been inactive.

Drilling in the foothills has now declined to isolated tests in a few distinct areas. The most northerly of these is Cartier-Majestic's No. 1, LSD 3, Section 36-31-7w5, on the Monarch structure, west of Olds and northwest of Calgary. This test has encountered some small gas shows but at a depth below 710 feet is not much more than started toward the potential producing horizons.

Farther south, three widely separated tests are strung in a north-and-south line along the Moose Mountain and related structures. The most northerly of these is Graystone Petroleum Consolidated's No. 2 Signal Hill, in LSD 9, Section 34-23-5w5. The original operators, the Signal Hill Oil Co. of Calgary, drilling on acreage of the Moose Mountain Oil Co., carried on through a number of years and got an eventful depth of around 4,200 feet, with some good shows of light crude. A few months ago a merger with other interests transferred the test to Graystone Petroleum Consolidated, Ltd., which has since been putting the well in shape for deeper drilling. It is planned to test two potential horizons, the Dalhousie sand and the Madison lime, both of which should be reached within less than 1,000 feet. Farther south, Elbow Oils' No. 1, LSD 11, Section 35-22-5w5, is around 3,340 feet and standing cemented after drilling into a crevice where strong hydrostatic pressure developed. The farthest south of the three tests is Cotton Belt Mines' No. 1, LSD 5, Section 21-21-4w5, located between the Moose Mountain and Waite Valley areas which is drilling below 2,625 feet and has encountered some gas.

The only other test in the foothills proper is Weymarn Petroleums' No. 1, LSD 5, Section 7-6-1w4, on the Mill Creek fold of the Pincher Creek structure. This has been drilled to below 4,040 feet, but owing to cavings at 3,900 feet had to be cemented.

An outlying fold, east of the foothills, is being tested by Ranchmen's Gas & Oil Co.'s No. 1 in LSD 16, Section 13-20-29w4, on the High River-Aldersyde structure. This test, financed largely by local interests, has been drilling for several years and has met repeated small shows of oil and gas at varying depths. It is now drilling below 5,225 feet.

A promising foothills area that has been neglected by operators is the Watson structure, north of Pincher Creek and south of the Highwood structure. Tests have been located in this area, but drilling has not yet been carried to any depth, though very encouraging geological reports have been given on the area.

East Central Alberta

A few years ago the Wainwright Field in East Central Alberta was exceptionally active. It was in this field that rotary equipment was first used, and the early tests got gas or heavy crude oil around 2,000 feet. A number of small producers of low grade asphaltic crude were drilled at various times, and there has been intermittent production which has been handled by small local refining plants. Water troubles appear to have interfered with production, and deliveries have declined to a nominal figure. The only test now active is Montreal-Alberta Petroleums' No. 1, LSD 2, Section 15-45-7w4, which after failing to get commercial crude in the Wainwright sand is reported deepening to test the lime.

East of this field there are four wells producing asphaltic crude on the Ribstone-Blackfoot structure. Ribstone Oils, Ltd., is handling and marketing the production which runs around 30 bbls. a day from the four wells. Recent drilling in this area failed to get production, and no drilling is now in progress. The crude is being sold for railroad fuel.

Red Coulee Field

The most encouraging results from recent drilling have been in the border areas close to the Montana boundary. The opening of the Kevin-Sunburst Field some years ago aroused the interest of Canadian operators in a possible northward extension of the producing area, which resulted in the development of production in the Alberta end of the international Red Coulee structure. Though the discovery well was drilled on the Alberta side, the best production has since been secured in Montana. The Alberta end has four producing wells aggregating 150 bbls. a day or better, with a good grade of crude. There is no drilling activity at present on the Alberta side, but in Montana, where Calgary operators have been quite active, several tests are under way. Calgary interests recently brought in Askalta Oils' No. 2 Farbo as a good producer.

Border Fields

Some good showings have been met in other tests in the Alberta border areas. Though only five tests are at present active, four of them have encountered fairly favorable showings.

The easternmost test is Mayland Southern's No. 2, in LSD 13, Section 4-1-9w4, some 35 miles east of Coutts. This location is on the Alberta end of the Reserve Dome. The Montana end had previously shown gas production with indications of oil. Mayland Southern's No. 1 has encountered commercial gas production in three horizons, between 1,807 and 1,890 feet, around 2,180 feet, and around 2,592 feet, the latter in the Sunburst sand. The Sunburst yielded around 5,000,000 feet a day and the aggregate production is reckoned at 12,000,000 feet a day. It is drilling at 2,750 feet and should get the Ellis around 2,860 feet, where production is looked for. Unofficial reports of an oil showing in this test lack confirmation.

Still farther west, and somewhat north, is Commonwealth Petroleums' No. 1, LSD 8, Section 9-3-15w4, on the Milk River structure. This test is drilling around 5,080 feet, has passed through the Madison and is pretty well through the Devonian, and has reported numerous small indications of oil and gas. Production is looked for in the break below the Devonian. The test is, geologically, the deepest ever drilled in southern Alberta and has been in progress for a number of years.

Still farther west is a group of three related wells. The most easterly is Parco Oil Co.'s No. 1 Twin River, drilled on Nordon Corp. acreage in LSD 16, Section 34-1-20w4. A strong show of crude, encountered in the top of the Madison at 3,870 feet, is reported to have bailed as high as 150 bbls. a day, and is now drilling in and testing though owing to heavy snow in border areas, results are not yet known. There has been some delay waiting for connections before completing the tests. The crude is a 31.5 gravity product, and tanks are being moved in to handle it. The structure is northwest of the Red Coulee Field, and about 45 miles northwest of the high point of the Sweetgrass Arch in Montana. It is about 28 miles west and slightly north of the border towns of Sweetgrass, Mont., and Coutts, Alberta.

Farther west, a joint wildcat is being drilled southwest of Lethbridge by Texas Oil Co. of Canada and Imperial Oil, Ltd., in LSD 14, Section 22-8-22w4. This test, drilling around 4,325 feet, is apparently lower on structure than Parco's No. 1. No oil or gas showings of any significance have yet been reported and the drill is apparently still working in the Blairmore-Kootenay formation.

The third test of the group, somewhat farther north, is Hudson's Bay Oil & Gas Co.'s No. 1 Keho, in LSD 2, Section 17-11-22w4. This test, like Parco's No. 1, encountered oil showings in the top of the Madison lime at 4,920 feet, the sample showing approximately 33 gravity. At last reports it was held up by a fishing job after cementing at 4,925 feet preparatory to drilling into production, and indications are that it may be necessary to sidetrack lost tools.

Ontario Drilling

In the Ontario fields, Union Gas Co.'s No. 2 Ekfrid, Lot 10, Concession 6, Caradoc Township, Middlesex County, has been abandoned after drilling to the "big red" formation at 1,905 feet. No oil or gas was encountered. Union's No. 3 Ekfrid, Lot 16, Concession 3, Ekfrid Township, is reported drilling around 1,500 feet.

In Kent County, Olga Oil & Gas Co.'s No. 4, Lot 18, Concession 9, Raleigh Township, is drilling around 1,545 feet and should get the gas horizon within a day or two.

In Tilbury East Township, Ralph Dawson's No. 2 has been located in the southwest quarter of Lot 3, Concession 15, about 500 feet from the west and 100 feet from the south line. It will test the Tilbury sand for gas, and production will be taken by the Southern Ontario Gas Co.

In Lambton County, Sarnia Oil & Gas Co.'s deep test on Lot 18, Concession 2 Enniskillen, southeast of Oil Springs, is reported preparing to resume after setting casing at 1,000 feet.

GULF COAST FIELDS

(Continued from Page 39)

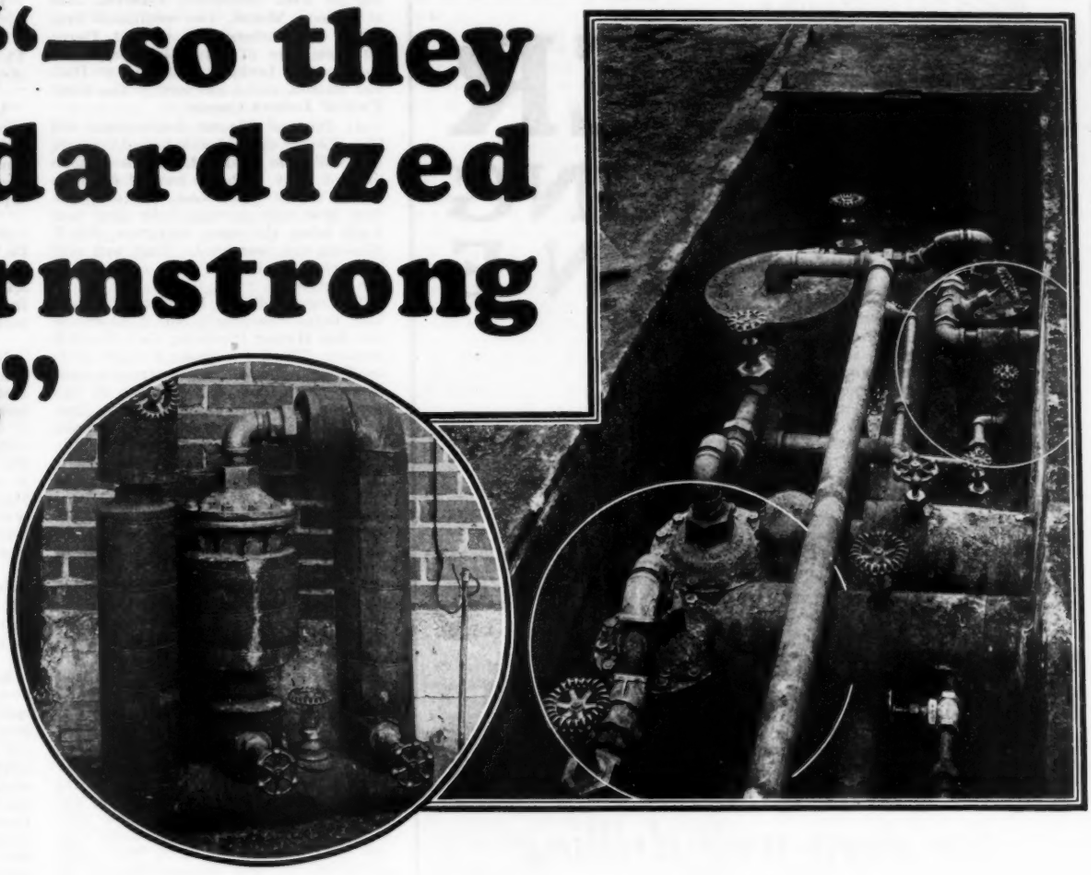
Characteristic of these fields is the extreme thickness of the Miocene and Oligocene, particularly the latter. In the Refugio Field tests drilled to below 8,100 feet have failed to find the Jackson. Only one test there has gone as far as the Fayette. This is the more striking in view of the fact that the Pettus Field, less than 35 miles northward, is producing from the Jackson at comparatively shallow depth. Production in the new Humble well on the O'Connor Ranch is in the base of the Miocene but at 4,155 feet indicates a very thick section. The deepest test in the Marianna district, The Texas Company's No. 1 McFaddin, went to 6,684 feet, where it was abandoned in the Oligocene.

Montgomery County Wildcat

Some interest at the close of the week was being attached to a Montgomery County wildcat, Strake and associates' No. 1 South Texas Development Co., south of Conroe, which was running casing to test showings reported to have been found in a shale formation at a total depth around 4,990 feet. A drill stem test was made from 4,900-50 feet, where it showed some oil and gas, and the hole was cored to its present depth. This test is in the Theodore Slade Survey. Seven and five-eighths inch casing is being set. Montgomery County, just north of the coastal salt dome district, so far has had no production although spasmodic interest has been centered in that part of the State. This county has figured in several active lease plays and a number of the majors hold large blocks there, and promising indications of production have been given in certain areas.

Completions in the coastal fields dur-

"—so they standardized on Armstrong traps"



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THAT'S the happy ending to many true-to-life short stories in the oil and other industries. Companies that have standardized on Armstrong inverted bucket traps (and there are many of national prominence) have licked such trouble as airbinding and clogging from scum or sediment (Armstrongs are self-scrubbing) . . . steam leakage (they are always water sealed) . . . wire drawing (they have special quick acting chrome steel valves).

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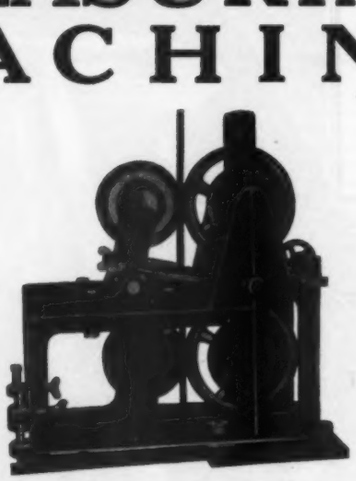

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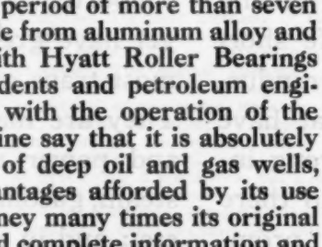

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ing the week included a 1,000-bbl. well at Damon Mound, two additional producers at Barbers Hill, one at Pierce Junction, two at East Hackberry, one workover at Lockport, one each at Hull and Batson, and a gas well in the Edna Field of Jackson County.

At Damond Mound, Intercoastal Oil Co. (Layne and others) brought in its No. 8 Wisdom making 1,000 bbls. of pipe line oil daily with 30 feet of 6⅝-inch screen set at 3,588 feet. This is the first new well in that field since last April when the same operators' No. 7 Wisdom was completed. That well still is flowing 250 bbls. of fluid, of which 80 per cent is oil.

The two wells at Barbers Hill were The Texas Company's No. 2 Lawrence and Nat Hunter Producing Co.'s No. 3-B Barber. The latter marks a slight westward extension of this company's pool on the north flank of the dome. It was good for 1,800 bbls. daily, through a five-eighths inch choke, from sand at 4,852 feet. The Texas Company's well was somewhat of a disappointment in that it flowed only 90 bbls. daily. Twenty-two and a half feet of 4¾-inch screen was set at 4,425 feet. This well is at the extreme north end of the present Miocene sand development on the east flank of the dome.

At Pierce Junction, Southern Petroleum Co. (Tilton and others) completed No. 1 N. C. Barnes, which flowed 716 bbls. of pipe line oil through a three-eighths inch choke in the first 24 hours from sand at 4,289-4,409 feet. This well is on the northwest flank of the dome.

East Hackberry

J. G. Sutton's No. 3 Irwin, north extension district of East Hackberry, has been completed as one of a series of good wells which have been brought in there within the last several months since the pool was opened. It flowed 1,300 bbls. of pipe line oil, 160 pounds pressure, with one joint of screen at 2,991 feet. Calcasieu Oil Co. also deepened its No. 27 Watkins, same area, from 2,982 feet to 2,991 feet, where it set two joints of screen, coming in for 2,000 bbls. daily. This new extension development has resulted in building up East Hackberry's production to around 12,000 bbls. daily, placing the field among the leading fields of the Gulf Coast.

Union Sulphur Co. deepened its No. 1 H. J. Moss, Lockport, from 4,814 feet to sand at 4,843-54 feet, where with one joint of screen set, it made 800 bbls. of fluid, 20 per cent water, through a half inch choke, 420 pounds pressure. Sun Oil Co.'s No. 10 Carr, Hull, deepened from shallow pay at 515 feet to 1,930 feet, flowed 50 bbls. net oil, 45 per cent water. Paraffin Oil Co.'s No. 36 Haywood, Batson, pumped 6 bbls. daily at 600 feet. Chicago Gulf Co.'s No. 10 Drushell, Edna Field, Jackson County, has been completed as a dry gas well, 800 pounds pressure, in sand at 2,646 feet.

Pure Oil Co. has abandoned as dry its No. 2 Southwest Louisiana Land Co., Gueydan, Vermillion Parish, Louisiana. This test, third on the Gueydan Dome, was scheduled for 8,000 feet and went to 8,007 feet where it was in tough sticky shale, having failed to encounter any showings. This test also missed the dome, which was proved by this company's No. 1 Alliance Trust Co., abandoned in salt at 6,004-58 feet last September. The No. 2 Southwest Louisiana Land Co. test, however, is close to a mile southwest of the Alliance Trust Co. hole.

There were two other abandonments during the week, these being L. B. House's No. 1 C. T. Palmer, James Fenner Survey, Liberty County, and Yount Lee Oil Co.'s No. 23 Cade, High Island.

MEXICAN OIL PRODUCTION

Crude oil production in the Tuxpan and Panuco regions of Mexico averaged 65,583 bbls. daily during the week ended November 21, compared with 63,534 bbls. daily during the week ending November 14 and 75,714 bbls. during the week ended November 22, 1930. Heavy oil production averaged 36,966 bbls. daily and light oil 28,617 bbls. daily.

ROCKY MOUNTAIN AREA

(Continued from Page 40)

The structure lies principally in Townships 5 and 6n, Ranges 57 and 58w.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE Section 7-4s-66, near Aurora, was delayed by a shortage of water in cementing 6¼-inch, which has been hanging for some time at 3,650 feet. Total depth is 5,850 feet.

Adams County

Hills Dome Oil Lease Development Co.'s No. 1 Hills, SE cor. Section 27-3s-64, near Watkins, is shut down at 3,790 feet waiting for engine and supplies from Texas. It will change over from coal to oil for fuel.

Jefferson County

Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor. Section 24-4s-69, near Denver, is waiting after cementing 6⅝-inch at 3,950 feet.

Larimer County

Raddatz Corp.'s No. 2 Fagan, NE SE NE Section 17-4n-69, Berthoud Dome, is running the 8¼-inch at 2,400 feet. Mayer Oil Co.'s No. 1 Reed, SW cor. NW Section 28-4n-69, is bottomed at 2,400 feet and underreaming the 6⅝-inch at 1,875 feet.

Moffat County

Ohio Oil Co.'s No. 1 Bogenschultz, C SE Section 9-6n-91, Craig Dome, is building rig. Drilling contract was let to the Vaughn Drilling Co.

Rio Blanco County

Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE Section 9-2s-96, Piceance Creek, is drilling at 2,080 feet in brown sand.

WYOMING

The Producers & Refiners Corp. has abandoned its seven shallow wells on the NW Section 20-21-80, Simpson Ridge Dome, in Carbon County. The wells were producing from the Mesa Verde at around 900 feet until the output declined to an unprofitable basis. A deep test drilled several years ago developed no additional pays.

Natrona County

Drilling operations in Salt Creek, which have been practically at a standstill for some time, are to be resumed this winter and in the spring on a limited scale. The Midwest Refining Co. is preparing to drill three or four wells to the Sundance formation. When this work is finished, it is not likely any additional wells will be put down until conditions warrant the drilling of some 12 to 15 locations for wells to the Tensleep.

The Midwest Refining Co. is laying water and gas lines for its No. 29, C SW NW Section 15-35-78, on the North Geary Dome preliminary to starting a deep test. This is the center dome of the three domes which the Midwest contracted to explore and develop, if production was found, under a co-operative group development plan entered into with the Salt Creek Producers Association, the Mountain Producers Corp., and the Midway-Geary Syndicate (H. Leslie Parker and others) and which was approved by the Secretary of the Interior. One test was drilled to the Sundance on the Midway Dome and another on the Geary Dome is preparing to resume. The North Geary structure was worked out with core drills during the past summer.

The Midway test, the Midwest Refining Co.'s No. 11 Middy, C NE NE Section 23-35-79, is producing 78 bbls. of oil and 45 bbls. of water per day from the Second Wall Creek at a total depth of 5,193 feet after plugging back from 6,685 feet. The Muddy sand showed saturation, but on account of a bad hole it was plugged off and it is planned to drill another test to that horizon.

Midwest's No. 11, SE NW NW Section 32-34-77, Geary Dome, which has been standing at 5,340 feet with 9⅝-inch cemented at 5,331 feet, is preparing to resume and will go on down to test the horizons below the Frontier.

Washakie County

The Ohio Oil Co.'s No. 1 Strothers, SW SE NW Section 19-45-92, Neiber Dome, is bottomed at 8,596 feet in the Sundance, which was dry, and is pre-

paring to plug back to 7,374 feet to test shows in the Frontier. This well probably has the record for depth with rotary tools in the Rocky Mountain area and stands second for all wells, being exceeded only by the Resolute Oil Co.'s well on the Badger Basin Dome, a cable tool operation, which went to 8,725 feet. It began drilling last March. The Noble Drilling Co. had the contract.

Park County

The Midwest Refining Co. is digging cellar for its No. 4 Rosenberg, NE NW NE Section 26-58-98, a little less than one-half a mile northwest of its No. 26 Rosenberg and the most westerly producer in the field, which was completed recently and produced 500 bbls. a day on the pump.

Fremont County

Ward Oil & Gas Co.'s No. 1, NE cor. Section 28-34-90, Dutton Basin, which gave promise of opening a new gas pool a few weeks ago when it was reported as coming in for 10,000,000 feet of gas in the third Wall Creek at 2,535 feet, proved to have encountered a pocket of gas which was soon exhausted. It is flowing around 100 bbls. of salty water from sand at 2,535-40 feet, but it is possible that this water is coming from behind the 5-inch on which the cement failed to set. It is drilling deeper and carrying this string which will be landed as soon as a good casing point is found.

Carbon County

Midwest Refining Co.'s No. 27 Union Pacific, NW SE SE Section 11-20-81, Elk Mountain, is shut down for the winter at 4,020 feet.

Prairie Oil & Gas Co.'s No. 1, SE SE SW Section 29-27-89, Bunker Hill, is shut down for the winter on top of the Dakota at 6,147 feet. The cores in the Dakota showed both oil and gas saturation, but a test will not be made until drilling is resumed in the spring.

Producers & Refiners Corp.'s No. 4 Wertz Dome, SW cor. SE Section 7-26-89, is shut down at 3,541 feet waiting for rods.

Niobrara County

Indian Petroleum Co.'s No. 1, NE NW NE Section 7-35-65, Lance Creek Field, is shut down for orders at 4,229 feet in the Sundance. It had a little gas and water in that horizon. This was an old well deepened to test the Sundance which has been drilled in only one other well, the Ohio Oil Co.'s No. 4 Converse Sheep, SE SW SE Section 32-36-65, which was completed in 1930 for 600 bbls. initial. The Indian Petroleum test is 2 miles to the southwest and considerably down structure.

Weston County

Dearing Oil Co.'s No. 1 Bock, NE cor. Section 6-46-63, heretofore carried under the name of A. N. Paysano, is shut down below 250 feet.

Julius Peters and others' No. 1 Witzell, SE cor. NW Section 30-45-64, Fiddler Creek, is shut down for machine repairs at 3,400 feet.

Federal Oil Co.'s No. 1, NE cor. SE Section 15-46-64, Osage district, west of Beaver Creek, which came in flowing 900 bbls. initial, is showing remarkable staying powers and is making 20 bbls. per hour from sand at 2,088-90 feet a week after coming in.

MONTANA

Carbon County

Ohio Oil Co.'s No. 1 Chapman, C SW SW Section 2-7s-21, Dry Creek Dome, is coring at 5,774 feet in the Lakota sand, which carries water. The location is about two-thirds of a mile northwest of the discovery well and half a mile west of No. 1 Souders, a gas well.

Carbon Oil & Gas Co.'s No. 1 Armstrong, SW cor. NW Section 7-7-22, a mile and a half east of the discovery, is drilling at 5,589 feet in the Dakota with both oil and gas showing. If this well comes in as a producer, it will mark an important extention of the pool.

Ohio Oil Co.'s No. 1 Robinson, NW NE SE Section 3-7s-21, has rig up.

Atlantic-Pacific Oil Co. has acquired 480 acres in Sections 5 and 6-7-21 under a contract which calls for the starting of a well as soon as the geological work is completed.

Ohio Oil Co.'s No. 1 Kueninski, NW SE NE Section 15-7s-22, Golden Dome, is drilling below 330 feet.

Glacier County

R. C. Tarrant's No. 1 Hagland, NW cor. SW Section 13-34-6w, Cut Bank district, is drilling below 2,520 feet.

Browning Development Co.'s No. 1 Reickhoff, for which rig was up, has changed location from the SE SE NE of Section 3-34-6w to the SE SW NE of the same section.

Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE Section 28-36-12w, Milk River area, is drilling below 2,814 feet. Supplies have been moved for winter operations.

Thomas and others' No. 1 Miller, C NW NW Section 28-33-5w, spudded to 30 feet and completed it as a validation hole.

Cascade County

Charles Merz and others' No. 1 Sheffelt, SE NW Section 4-21-4e, Black Horse Lake, has landed the 10-inch at 440 feet and is cleaning out.

Buscher & Cassidy's No. 1 Johnson, NE cor. SE Section 19-22-3e, Benton Lake, is bottomed at 1,100 feet and fishing for tools. The 8¼-inch is at 1,008 feet.

Liberty County

Western Natural Gas Co.'s No. 1 Hicks, C NW NE Section 26-37-4e, Whitlash district, is shut down at 1,100 feet on account of the weather.

Toole County

In the Kevin-Sunburst Field, the Latan-Idaho Pool's No. 2 Newman, C NE NW Section 30-32-1w, was abandoned at 1,568 feet. The Sunburst sand at 1,566-68 feet carried water.

Texas Pacific Coal & Oil Co.'s No. 50, NW SE NE Section 36-35-2w, which has been standing for some time at a total depth of 3,125 feet, has been abandoned at that depth. The pipe was left in the hole. This was a deep test in the Kevin-Sunburst Field.

In the Border Field, Cosmos Petroleum, Inc.'s No. 3 Iowa Holding, NW NE SE Section 2-37-4w, is shut down at 100 feet until weather conditions improve.

Hannah-Porter Co.'s No. 3 Iowa Holding, NW SE SE Section 2-37-4w, landed

(Continued on Page 77)

COMMITTEE OF GEOLOGISTS NAMED TO STANDARDIZE NAMES OF POOLS

By B. D. Stevenson

SAN ANTONIO, Tex., Dec. 7.—Chaos and uncertainty in the matter of naming oil and gas pools in Southwest Texas may be eliminated by a move of the San Antonio section of the American Association of Petroleum Geologists which has appointed a committee to handle the matter, co-operating with the newspapers and oil trade journals.

There are a dozen or so pools in Southwest Texas each known by several different names. Confusion is caused by geologists using different names in reports and papers to indicate the same pool. Publications and government documents do the same. In one place in Southwest Texas there are five separate producing spots all called by one name in some publications and by different names in others.

The situation is said to be one that is more or less common in every oil and gas country. President Herschel H. Cooper, of the San Antonio geologists was instructed to appoint a committee to work on the matter and not only to straighten out names of old pools, but to be ready to name each new one when it came in.

Mr. Cooper has named as the committee Phil F. Martyn of the Houston Oil Co. at Beeville, Joseph M. Dawson of the Gulf Production Co. at San Antonio, and Olin G. Bell of the Humble Oil & Refining Co. at Laredo. If they succeed in clearing up the situation it is not unlikely that geologists in other sections may lead the way out of confusion.

Phil F. Martyn

Joseph M. Dawson

Olin G. Bell

California Oil Show To Be Held in March Instead of February

The date for the third annual Oil Equipment and Engineering Exposition to be held in Los Angeles, Calif., has been set for March 21 to 27, 1932. It was originally planned to hold it in February, but in order to co-operate more closely with the manufacturers of equipment, and to show tools, machinery and materials at a most suitable time for their selection by those interested in their purchase, the later date was established. It was further decided that, as heretofore, all of the annual oil expositions in California will be held during the month of March.

Plans are now being completed to make this a more comprehensive showing of every type of equipment used in the oil industry than has previously been possible. The latest designs of equipment, the most modern methods of operation, and the newest materials and products will be displayed for drilling, production, refining, pipe line, natural gasoline manufacture, and marketing. For the convenience of both visitors and exhibitors, a separate marketing division has been planned, and displays of refined products and distributing equipment will be assembled in one location.

The permanent buildings and grounds located on Alameda Boulevard at 131st Street have been prepared to offer the best facilities possible for exhibiting any kind of equipment. Two steel derricks are already in place, and many of the exhibits in the main building are ready.

Some of the engineering societies and associations have already set dates for meetings in the Convention Hall during the exposition, and a number more are planning their programs. Several technical exhibits will be shown, and many valuable data on operating methods will be available to exhibitors and visitors at all times.

DEATH OF ROBERT BISHOP

Robert Bishop, age 83 years, of Bradford, Pa., a retired oil producer long and widely known in the old eastern fields, died at the Seaside hospital at Long Beach, Calif., on November 28 following an operation for appendicitis.

Mr. Bishop was born in Plymouth, England. He came to America in 1874 and was attracted to the oil country, settling in Bradford where he worked in the field until he learned the details of the business of producing oil. While other operators in that field were hurrying off to other and newer fields then in their flush state, Mr. Bishop remained in Bradford and picked up low-priced leases which in time made him independent. When he reached the age of 75 years, Mr. Bishop decided it was time for a rest and he sold his holdings and during the remainder of his life devoted most of his time to travel. He annually visited his old home in England and last year made a trip around the world. He had expected to spend the coming winter in southern California. Mr. Bishop is survived by one daughter, Mrs. John Ellis of Bradford.

NEW GUSHER AT BAKU

NEW YORK, Dec. 7.—A new gusher, flowing between 6,000 and 6,500 metric tons daily initial, was recently brought in in the Stalin oil district of Baku, according to advices received here. A steady stream of pure crude, without water or sand, with a specific gravity of 0.884, rises to the surface from a depth of 1,208 meters, the report states.

COLOMBIA OUTPUT

WASHINGTON, D. C., Dec. 5.—Colombia's production of crude oil for October was 1,455,380 bbls., according to cable advices just received by the Commerce Department. This compares with 1,414,958 bbls. in September and 1,512,528 bbls. in August.—C. E. K.

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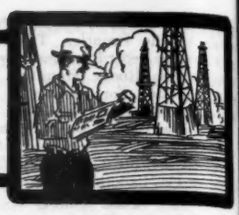

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26 West Second St., Cincinnati, O.

FOR SALE—One practically new Sullivan "N" Portable Gasoline Engine Driven Diamond Core Drill. Cheap for cash. Also one "Bravo" Diamond Core Drilling Machine. Address P.O. Box 1897, Tulsa, Okla.

USED EQUIPMENT FOR SALE

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GAS ENGINE, 100 H.P. 3-cylinder Turner Frick, direct connected to 40 K.W. Generator, used 11 months. A decided bargain. C. R. Breuer, Smelting & Refg. Co., Cincinnati, Ohio.

WE HAVE on hands all sizes of pipe from one-inch to twenty-inch. Get our prices before you buy. Western Pipe & Supply Co., Box 731, Eldorado, Kans.

ONE 400 and one 600 Lincoln Stable-Arc Welder. Also one Caterpillar 30 Tractor with all-steel winch. All practically new and priced right. Johnson Plbg. & Htg. Co., Wichita, Kans.

FOR SALE—All equipment from two dismantled Dubbs Cracking Plants, including two Dow surge pumps with less than 18 months' service, Worthington duplex steam pumps, Leeds & Northrup indicating and recording pyrometers, Key & Ohiolock headers. Tagliabue pressure controllers and variety of forged and cast steel fittings. Material in first-class condition and subject to inspection. Address Box E-842, The Oil and Gas Journal, Tulsa, Okla.

20 Waukesha engines, heavy-duty, 4-cyl., 120 H.P. Cheap.
MERTES MACHINERY CO.
1622 S. First St., Milwaukee, Wis.

MAILING LISTS

LIVE mailing lists of investors in oils, royalties, leases and mining. Flory & Co., Box 1328 G, Ft. Worth, Texas.

EQUIPMENT WANTED

USED 27-inch Swing 22-foot Bed Hollow Spindle Lathe with Taper Attachment for turning Cable Tool Joints. Chuck capacity 7 inches or more. Individual motor drive. Must be first-class.
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DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 2443 N. W. 12th, Oklahoma City.

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JAMES E. MILLER CO. will co-operate with responsible firms or parties seeking aid in financing projects of higher order. Suite 200, New Brady Hotel, Tulsa, Okla.

JOHN MORRIS, 3608 WARREN ST., PHILADELPHIA, Pa., invites full facts first letter from capable parties planning negotiation of reasonable capital support for undertakings distinctly of higher order. Use registered mail, safeguard data.

FINANCE YOUR OWN project with shares bonded. Quickest, most satisfactory known method of raising capital. Information free. Bankers Interstate Security, Electric Bldg., Denver, Colo.

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Inquiries solicited from corporations interested in raising capital through marketing corporate securities.
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RAISE MONEY FOR OIL OR MINING

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BUSINESS OPPORTUNITIES

WANTED—Seismic shot holes, shallow production or core drilling contracts. RITTER-DUGAN Drilling Co., Perry, Okla.

WITH $10,000 CAPITAL—Believe can make a profit of $100,000 in six months time trading in commodities. Time is here now. Years of experience. GREGG SNYDER, care James E. Bennett & Co., 25 Beaver St., New York

OIL located before drilling. Geophysical method. Toggodometer Instrument; take pay in oil. No oil, no pay, except traveling and testing expenses, 95 per cent accuracy. O. P. Coffin, Caddo, Tex.

SHARES $50, payable $5 weekly. Complete well, 2,100 feet deep, thousand acres on Deussen's anticline. Oil sand 3,938. Believe no gamble. John Sigmund, Corpus Christi, Tex.

NEED SOME MORE GOOD CORRESPONDENTS in every city of United States and Canada to co-operate with me in selling producing and nonproducing royalties. Write, James R. Haynes, Grantville, Kans.

WE BUY, SELL AND SWAP
Real Estate and Oil Properties
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KANSAS Royalties offseting midwest well Stafford County. Hugoton Gas Royalties. Lists, maps free. Harry Haynes, Grantville, Kans.

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INDEPENDENT Refiner wants contact direct with one or more producers who have 100 to 500 bbls. daily production in Mid-Continent Field. Will buy crude or leases. Box 866, Joplin, Mo.

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FOR SALE—Leases, excellent geology. Well rigging up in vicinity. Edgar J. Ramsey, Longstreet, La.

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WANTED—Drilling block in Texas on production basis. T. E. Ryan Interests, Beaumont, Tex.

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HELP WANTED WITH INVESTMENT—Want experienced natural gas executive with twenty-five thousand or more to take over active management of new eight million dollar development project. Give full details and reference first letter. Address Box E-865, The Oil and Gas Journal, Tulsa, Okla.

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FOR RENT—Tank cars, 10,000 gallons. 50-ton truck—coiled—Chicago delivery, no dealers. A. V. Konsberg, 111 W. Jackson B., Chicago.

OKLAHOMA FIELDS

(Continued from Page 30)

bell Reed, SE cor., Section 22-7-6, at 4,161 feet; Carter Oil Co.'s No. 1 Aleck, C SW SE, Section 23-7-6, at 3,117 feet; Magnolia Petroleum Co.'s No. 3 Risenhover, SE cor. SW NE, Section 14-7-4, at 4,321 feet; Magnolia Petroleum Co.'s No. 1 Harjo-Reed, SW cor. NW NW, Section 2-8-5, at 4,162 feet; Magnolia Petroleum Co.'s No. 2 Davis, NW cor. NE, Section 13-8-6, at 4,206 feet; Magnolia Petroleum Co.'s No. 4 P. Anderson, NW cor. NE NE, Section 18-9-6, at 4,337 feet; Magnolia Petroleum Co.'s No. 1 Skinner, NW cor., Section 5-7-8, at 4,101 feet.

In Pontotoc County operations are continuing at a steady pace. Stanolind Oil & Gas Co.'s No. 2 Burke-A, SW cor. NE, Section 32-5-5, is a new location, in the Beebe area. Same company's No. 3 Roper, SE cor. NW, Section 32-5-5, has been completed for 247 bbls. a day, swabbing and flowing from sands at 2,425-50 feet and 2,398-2,450 feet. Barnsdall Oil Co.'s No. 1 Hart, NW cor., Section 27-5-6, a semiwildcat was drilling at 1,000 feet. Benedum & Trees Oil Co.'s No. 1 Burke, NE cor. NW SE, Section 32-5-5, was underreaming 8-inch casing at 1,910 feet.

In Southern Counties

In the southern part of the State Carter Oil Co.'s No. 2 Taylor, NW cor., Section 19-1s-2w, is a location on the extreme northeast edge of the Tatums Field, in Carter County. McCarty and others' No. 1 Norris, NE cor. SE, Section 23-2s-2w, has been abandoned at a total depth of 260 feet.

In Stephens County W. J. McAlister and others' No. 1 Voss, SW cor. NE SW, Section 28-1s-8w, has been completed for 1,000,0000 feet of gas a day in sand at 1,003-18 feet. G. Pace's No. 1 Bristow, NW cor. SE SE, Section 18-2s-7w, was drilling at 740 feet. W. H. Smith's No. 1 Ridgeway, NW cor. NE SE, Section 17-3s-4w, was drilling at 775 feet. K-D Oil Co.'s No. 2 Hightower, SE cor. NE, Section 15-3s-5w, has resumed operations after being shut down for some time at 1,015 feet.

Oklahoma City Production

The production of the Oklahoma City Field for the week ending December 5 shows a daily average of 197,042 bbls., which is in excess of the allowable of 180,000 bbls. a day fixed by the Oklahoma Corporation Commission. The daily production was as follows:

Date—	Prod.	Wells
November 29	151,631	142
November 30	114,538	102
December 1	172,216	131
December 2	203,074	125
December 3	220,634	140
December 4	290,800	167
December 5	226,400	156

Seminole Production

The production from the Greater Seminole area for the week ending December 5 was approximately 159,785 bbls. a day. The first 12 pools listed below comprise the Seminole area, which averaged 123,785 bbls.

Pool—	Bbls.
Little River	22,015
East Little River	6,205
Carr City	12,410
Maud	2,135
Mission	9,410
Bowlegs	14,100
Earlsboro	15,170
South Earlsboro	2,365
East Earlsboro	15,080
Seminole	20,305
East Seminole	1,375
Searight	3,215
Total	123,785
Allen	9,745
Asher	595
Wanette	2,265
Konawa	3,710
Sasakwa	1,845
St. Louis-Pearson	17,700
Total	159,645

Bryan County

M. A. Neff and others moved a machine in for No. 2 Farris, SW cor. NW NW SE, Section 29-6s-7.

Carter County

Carter Oil Co. is erecting the rig for No. 2 Taylor, NW cor. Section 19-1s-2w.

Creek County

Gled Oil Co.'s No. 4 Travis, SE cor. NE Section 13-19-8, has been completed for 75 bbls. in sand 2,224-64 feet after shooting 300 quarts. Marbles and others' No. 1 Evans, NE cor. NW SW Section 29-19-8, is dry and abandoned at 2,800 feet. Holmes Drilling Co.'s No. 3 Burnett, NW cor. SE NW Section 7 19-10, had sand from 1,150 feet to 1,196 feet and plugged back to 1,171 feet where it was shot with 140 quarts and completed for 5 bbls. Curtis Oil Co. and others' No. 1-A Adams, SE cor. SW SE Section 18-17-10, has been completed for 2,250,000 feet of gas in sand 2,214-23 feet. Shamblin & Smith and others' No. 1-A H. Wilson, CNL SE NE Section 21-15-8, is dry and abandoned at 1,550 feet.

Hughes County

Producers & Refiners Corp. made location for No. 1 Rogers, C NE SE SE Section 8-7-8.

Latimer County

H. E. Dowd and others' No. 2 Hembree, SE cor. NE Section 16-3-22 is drilling at 350 feet.

Love County

J. B. Schermerhorn and others' No. 1 Bourland, NE cor. NW SW Section 1-6s-1e, is a machine.

Marshall County

M. A. Neff and others' No. 1 West Rutland, SW cor. NW NW SE Section 30-5s-6, has been completed for 36 bbls. in sand 631-47 feet, total depth 690 feet. Clement Davis and others moved a machine in for No. 1 Burge, NE cor. SE NE SE Section 25-7s-5.

Muskogee County

T. E. Wheeler and others' No. 1-A Fields, SE cor. NW SE NW Section 18-15-18, is drilling at 600 feet. J. Aggas' No. 1-A Rowe, NE cor SE NE Section 28-16-15, has been abandoned at 2,004 feet. H. L. Jolly's No. 3 Spaulding, SE cor. NE SE NE Section 8-15-18, made 9,500,000 feet of gas in sand 1,579-90 feet. Dunbar & Urban's No. 1 Rowsey, CWL NW NW Section 10-15-18, is dry and abandoned at 1,761 feet.

Oklahoma County

Gulf Producing & Production Co.'s No. 1 Garrett-Rucker, Block 1, Lots 15 and 16, Banner Addition, SW cor. SE SW NW Section 2-11-3w, Oklahoma City Pool, is a cellar. C. L. Carlock and others' No. 1 Richolson, Block 1, Lots 6, 7, 43 and 44, Richolson Subdivision of Fletcher Heights, NE cor, NW NW SE, Section 22-11-3w, is a cellar. Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 1 S. Berg, NE cor. SW Section 26-11-3w, is a cellar. Hall & Briscoe and Mabee's No. 1 Grace, SW cor. SE SE Section 3-11-3w, has been completed for 1,058 bbls. on a two-hour gauge, producing from Wilcox sand at 6,279-6,323 feet, total depth 6,446 feet. Phillips Petroleum Co.'s No. 1 Dehn, NW cor. SW NE Section 3-11-3w, topped Wilcox sand at 6,309 feet, drilled to 6,447 feet and made 10,805 bbls. in four and one-half hour through a 4-inch choke.

Okmulgee County

Penrod & Thompson's No. 12 Reynolds, SE cor. SW SW NW Section 15-13-14, has been completed for 3 bbls. at 1,809 feet after plugging back from 1,913 feet.

Pontotoc County

Ada Development Co. has the rig up for No. 6 Lloyd, SE cor. NE NW NE Section 6-3-7.

Seminole County

The Prairie Oil & Gas Co. is building the rig for No. 1 Brown, SW cor. NE NW Section 3-8-5, Carr City Pool. Empire Oil & Refining Co. made location for No. 1 Davis, NW cor. NE NE Section 30-7-8.

Stephens County

McAllister and others' No. 1 Voss, SW cor. NE SW Section 28-1s-7w, is shut down in sand 1,003-18 feet, showing 1,000,000 feet of gas. Murray Petroleum Co.'s No. 1 Wilkerson, SE cor. NE SE Section 8-1s-5w, has been abandoned at 1,252 feet.

Wagoner County

The Breman Oil Co.'s No. 1 Andy, SW cor. NW Section 32-18-17, is drilling at 300 feet. J. A. Barber and others' No. 2 G. Childers, CWL NW SW Section 28-18-17, has been abandoned at 1,065 feet.

Lower Gasoline Prices in Chicago Area

Failure of Refiners to Adjust Plant Operations to Seasonal Decline in Consumption Reflected in Excess Supplies

By Robert C. Conine
Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, Dec. 7.—Gasoline tank car markets are reflecting the usual annual ordeal of changing refining operations from a summer basis to a winter basis. The reaction is somewhat stronger because of the extension this year of the season of heavy demand into the early part of November. It is felt that the refiners should have taken advantage of the unusually good weather to cut their stocks in storage to the lowest level of requirement so that the season of curtailed demand could be entered with prices established high enough to allow all of the manufacturers to weather the season of lowest gasoline consumption.

Small Refiners Shutting Down

Three of the smaller refiners have closed down their plants, and another has shut down two refineries for at least two weeks for repairs. Another refiner is preparing to cease operations and is offering his stocks at the buyer's price. Last week the gasoline stocks at one plant were offered to a major interest at 3¼ cents to keep this material off the market.

Pennsylvania Refiners Not Quoting

The sagging of the gasoline tank car markets and the fact that Pennsylvania refiners no longer, according to letters to customers, have a surplus of material, has stopped the movement into this territory of gasoline from the eastern points. It is also to be noted that most of the gasoline which is being offered freely on the open market with practically no takers is a U. S. Motor material of about 50 octane number. The low antiknock rating of this gasoline places it in the position of subspecifications material of the beginning of summer which brokers had difficulty in moving. There is considerable demand for gasoline of 65 to 70 octane number and this material is offered in limited quantities at as much as a cent above the current postings for U. S. Motor specifications of 50 to 54 octane number.

See Constructive Factors Working

In Chicago district oil trade circles the current weakening influences in the gasoline tank car markets are thought to be well balanced by constructive factors at work in the industry. It is felt that the markets are nearing stabilization and that the price recessions of the last few days were caused by the steep drop in demand forcing all of the refiners who are in a bad position to enter the field at one time as distress sellers thus placing too heavy a burden on more fortunately situated manufacturers momentarily.

New Contract Gaining Adherents

Another important factor which should serve to stabilize the gasoline tank car markets well above the price levels of the past season is the new contract which an increasing number of marketers are offering to jobbers. This is the contract which splits the advantage between the seller and buyer above and below 4½ and 5½ cents. For a time it was thought that some of the refiners were considering a contract which substituted 5½ and 6½ cents for the 4½ and 5½ cents in the new contract, but it is now indicated that this change will not become a disturbing factor as no refiners are found now supporting this change. If the seller will set the points in the new agreement down in the form of a diagram and then draw in the representation of the 5½ and 6½ cents spread, he will see that his argument that points such as Chicago call for an additional cent on the Q.D.A. do not warrant the above revision as such a change would, more often than not, show allowances of nearer 2 cents than 1, and this may be shown by drawing in the Group 3 spot market in the form of a curve.

New Contract Objection

An objection which has been offered to the new contract is more in the nature of an expression of a fear. This is that the universal acceptance of this contract will under certain market conditions force the buyers into contracts with the larger companies who are doing a large volume of business through the lease and agency agreements. If the service station operators find their profits curtailed, it is said, in the execution of the new contracts, the sellers having the new contracts will lose out. This objection, however, is not considered seriously at this time, especially in view of the fact that the major interests doing most of the lease and agency business have announced their decision to discontinue the lending and leasing of equipment as recommended in the A.P.I. code of marketing practices.

Although the gasoline tank car markets have weakened slightly in price since last week, the news that crude oil producers and refiners are actively engaged in working out curtailment schedules in the Mid-Continent, and the fact that prices continue to be advanced in the eastern markets, have minimized considerably the adverse effects of the sudden slump in demand. Another bright spot is the fast growing demand for gas oils and distillates and some of the higher gravity zero fuel oils. Most of the gas oils and distillates are moving at the high of the current price range. Several refiners have notified buyers making inquiries that they have no 28-30 zero fuel oil to sell as they are cracking this material.

One Refiner's Octane Progress

The steps which one refiner has taken in improving the quality of his gasoline are outlined below. This gasoline is to be further improved, it was said, in respect to antiknock rating as more new cracking installations and pressure distillate rerun units are cut into the plant operations. The gasoline is sold as the regular grade at stations offering a third and a premium (Ethylized) grade, as well. The octane rating is 68.6.

A series of tests made on this gasoline on September 15 showed the following characteristics: Octane number, 61; gravity, 60.6; per cent over at 158°, 13.0; per cent over at 284°, 59.0; per cent over at 352°, 90; endpoint, 387°; Reid vapor pressure, 8 pounds. A second series of tests were made on October 20, with the following results: Octane number, 63; gravity, 60.7; per cent over at 158°, 16.5; 90 per cent over at 358°; endpoint, 390°, and Reid vapor pressure, 9 pounds.

A much more complete series of tests have just been completed on this gasoline, dated December 5, and show the following characteristics: Octane rating, 68.6; gravity, 63°; iodine number, 96.3; dissolved gum (by air jet method), 1.2 mg.; 20 color; corrosion, negative; doctor, sweet; recovery, 97 per cent; residue, 1 per cent; loss, 2 per cent. Distillation: Initial, 82; 10 per cent, 131; 20 per cent, 164; 30 per cent, 194; 40 per cent, 219; 50 per cent, 242; 60 per cent, 266; 70 per cent, 290; 80 per cent, 315; 90 per cent, 342; 95 per cent, 362; endpoint, 373. Percentage over: At 140°, 13 per cent; at 212°, 37.5 per cent; at 221°, 41 per cent, and at 284°, 68 per cent. The technologist in charge of the tests believes that this is a liquid phase gasoline containing a considerable proportion of stabilized naturnl gasoline or gasoline from refinery vapor recovery units.

In respect to the new gasoline announced by the Sinclair company, none of the other refiners has indicated yet what his plans will be, and it may be that a period of watchful waiting will follow before there is any considerable revision of refinery operations to match the antiknock rating of the Sinclair regular grade which is said to be close to 70 octane number.

Gasoline Tank Car Markets

The gasoline tank car markets are holding at the opening of this week at levels slightly lower than last week. Although the buyers agree that conditions are such that the markets are just as likely to move upward as downward, few are in a position to take a chance and are playing safe by keeping their tanks close to the bottom. With the sinking natural gasoline markets there has been a revival of inquiries for blended gasoline. Some of the naphthas offered are exceptional in respect to antiknock rating, but are at a disadvantage because of relatively high initial. Considerable quantities of unstabilized natural gasoline are offered by the same refiner. The price on the naphtha is 3⅜ cents, and on the natural, 2½ cents, f.o.b. Oklahoma plant.

Consider Tank Wagon Stable

The gasoline tank car price recessions at this time are held to be a temporary effect of readjustment inertia on the part of manufacturers and crude oil producers, so it is felt that there will be no change in tank wagon postings unless subsequent action shows that the refiners and producers have no intention of curtailing their operations. The gasoline which is being offered freely in this district is of poor antiknock quality. The higher octane number material is selling from three-quarters of a cent to a cent higher in the U. S. Motor grade. Prices on no octane specifications gasolines Monday were: 58-60 U. S. Motor, 3⅜ to 3¾ cents; 60-62 400 endpoint gasoline, 3¾ to 4 cents; 64-66 375 endpoint gasoline, 4¼ to 4½ cents; 68-70 360 endpoint gasoline, 4¾ to 5 cents. The 64-66 437 endpoint blended gasoline was offered at 3⅜ cents.

Among the Price Cutters

One of the leading cut price service station operators in Chicago district has just bought two carloads of jelly which he will give away at his stations to purchasers of gasoline. Some of the larger companies started to compete with this type of service station but decided against such a move and are now discouraging those operators who handle their products and are not under their control from using premiums to bring in business.

Short Measure Artists

City Sealer Joe Grein, Chicago, with four deputies, visited a number of cut-price filling stations last week. Three automobiles with dummy gasoline tanks were used and the result was that five stations were condemned, and the operators at many other stations were given a warning card to appear in the city sealer's office. On a sale of five gallons the shortages ranged from one pint to nearly half a gallon.

With the legislature in session at Springfield, the usual proposals for additional gasoline levies are swarming in. The additional revenue will be used for any purpose but highway construction and maintenance. Mayor A. J. Cermak, Chicago, has a plan for eliminating the need for income tax and sales tax proposals now before the legislature. This plan includes a $10,000,000 unemployment appropriation from the gasoline tax funds. Unless the industry does something promptly to make the public realize the unfairness of such levies, it is said, Illinois may expect to be in the position of Florida, where a 7-cent tax is now in effect, and where taxes levied against automobile owners furnish 71 per cent of the state's entire revenue.

Fuel Oils and Gas Oils

The fuel oil and gas oil markets are in a much better position than last week, although it is reported that some zero material from Ohio and Michigan points is finding its way into the territory. Prices this week are at the top of last week's range, and according to many distributors and jobbers a sudden drop of the temperatures usual in the district for this time of year will find the small sellers unprepared. Business in gas oils and distillates has picked up considerably for a week now, and it is believed that a tank wagon increase is near. The 32-36 industrial gas oil is offered at 1⅝ cents; the 32-36 zero material is selling at 1¾ cents, and straw distillate of suitable quality is moving at 2 cents. The 18-22 fuel oil is somewhat weaker than last week, but the quantity of zero material is limited. The price Monday was 25 to 30 cents. The 22-26 fuel oil was unchanged in price and firmer at 35 to 40 cents; the 28-30 zero fuel oil is strong at the current prices of 52½ to 57½ cents.

Special Road Oils

Inquiries for a special road oil have come to this office from large scale importers abroad. This road oil is used in making black newspaper printing inks. Dark colored oils of long fiber, zero pour test, derived from the distillation of asphaltic base crude petroleum and treated to remove pitchy asphaltic matter which causes "strike through" in printing, are sought. The importer warns that the residual oils must be treated with maximum 2 per cent concentrated sulphuric acid to remove the pitchy substance, and not with fuller's earth which injures the working properties of the inks. The oils so treated must have high viscosity, true deep black color (not gray), and long fiber or great stringiness. Specifications of some of the oils treated thus are as follows:

	Refractive index	Vis. in sec. 100° F.	Vis. in sec. 130° F.	Vis. in sec. 210° F.	Flash point	Fire point	Spec. grav.
(1)	1.5040	647	265	60	360	410	.9248
(2)	1.5136	910	330	64	390	450	.9230
(3)	1.5130	1200	410	70	410	490	.9230
(4)	1.5112	1200	...	70	410	465	.9495
(5)	1.5025	620	235	58	360	410	.9285

The residual, or road oil, desired is that left after the removal by distillation of all cuts down to fuel oils, so that the heavy viscous long-fibered residue does not contain any materials which may not be immediately and completely absorbed by printing paper.

NAVY BUYS FUEL OILS

NEW YORK, Dec. 7.—The Bureau of Supplies and Accounts of the Navy Department has awarded contracts totaling approximately $858,854 for 1,209,200 bbls. of bunker fuel oil for delivery at East Coast ports during the first half of 1932. This amounts to an average of 71 cents per barrel.

The following contracts were awarded: Magnolia Petroleum Co., 594,000 bbls. at $323,800; Warner-Quinlan Co., 278,500 bbls. at $249,853; Gulf Refining Co., 110,000 bbls. at $74,450; Standard Oil Co. of New York, 50,000 bbls. at $58,700; Continental Oil Co., 800 bbls. at $1,344; Tide Water Oil Co., 35,000 bbls. at $32,500; Standard Oil Co. of New Jersey, 25,000 bbls. at $11,250; and Atlantic Refining Co., 115,900 bbls. at $106,975.

East Coast Refiners Advance Gasoline

Kerosene Also Higher in Tank Car Market. Rumanian Oil Receipts Shipped via Tank Car to Detroit. None to Be Offered in the East

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Dec. 7.—Advances in refinery prices for gasoline and kerosene featured the East Coast market during the past week, the advance amounting to one-half cent per gallon on each product. The Eastern mark-up was initiated by Sinclair Refining Co. and has been followed by other major interests in the East. Quiet markets were reported for other refined products throughout the week, prices being without change.

Some interest was shown during the week in the arrival of a cargo of some 2,500,000 gallons of Rumanian gasoline at Baltimore. Fears that this gasoline would be dumped in East Coast markets were dispelled, however, when the Detroit consignee of the cargo announced that the gasoline would be shipped to Detroit by tank car, as would be the case with other Rumanian cargoes scheduled to arrive later. Approximately 9,000,000 gallons of the Rumanian product are still scheduled to come forward, it is believed. The cargo which arrived at Baltimore during the week was handled through a large terminal there, a large tank car company having a fleet of tank cars waiting for prompt transshipment of the gasoline to Detroit.

While tank wagon and service station markets have not reflected the latest strengthening in the position of the refinery market, the current mark-up in tank car prices is expected to tend to restore more stable conditions to retail markets in this area. A revival in price-cutting tactics during the past month has driven retail prices down to 8 and 9 gallons for $1, as contrasted with a posted price of 16½ cents per gallon, in some sections of the territory. The higher refinery market, however, is counted upon to correct this situation somewhat, as it will tend to narrow the margin of independent operators who have been instrumental in undermining the position of the retail market.

Weather conditions have at least reverted to normal, and with cold stormy weather reported from most parts of the territory, the seasonal decline in gasoline consumption is at last making itself apparent. At the same time, however, the drop in gasoline gallonage is being compensated for by heavier demands for kerosene and fuel oils, and refinery shipping departments have been quite active on the latter grades during the week.

Gasoline

Sinclair Refining Co. initiated an upward movement in the gasoline tank car market on December 2, announcing a half cent advance in its refinery prices at all Atlantic Coast terminals, including Tampa, Fla. The new schedule of the Sinclair company brings its quotations up to 6½ cents per gallon for U. S. Motor gasoline and 7 cents per gallon for "Sinclair brand" gasoline, the latter of a higher octane number than the regular U. S. Motor quality.

Standard Oil Co. of New Jersey, Atlantic Refining and Warner-Quinlan followed the advance in the local market on December 3, and as of December 4 Standard Oil Co. of New York also met the advance, other refiners following in this action.

The Atlantic Refining Co., in posting its price at Philadelphia, named a quotation of 6½ cents per gallon for tank car shipments of gasoline below 65 octane number and 7 cents per gallon for gasoline of over 65 octane number. While a number of refiners are as yet loath to differentiate "officially" in their quotations for gasoline under and over 65 octane number, most sellers actually set the dividing line at 65 and quote a half-cent differential for motor fuel over that octane number. It is believed that when the refining departments of the various companies are properly readjusted that most refiners will "officially" post two prices for tank car gasoline, using 65 octane number as the division point in quality.

While this week's advances in tank car gasoline quotations were announced principally at the key points of New York Harbor and Philadelphia, the price revisions affect all of the important tank car terminals along the Atlantic Seaboard. Although consumption of gasoline in the East is nearing its seasonal low, the statistical position of the market is reported as excellent, and refiners are evidently determined to work the market into firm ground before the next spring selling campaign rolls around. According to present reports, leading refiners plan to adhere rigidly to their present programs of curtailed refinery operations, and stocks of finished gasoline and other products will be held down as much as possible in an endeavor to cure the unfavorable situation developed by the overproduction of the past several years.

Tank Wagon Gasoline

Markets are strengthening, in sympathy with the higher refinery price basis, but leading marketers have not yet succeeded in restoring posted price schedules at all points in the territory. With the wholesale market on a higher basis, however, it is not expected that independents who have been cutting prices will be able to continue this practice much longer, and leading companies expect a gradual return to posted prices.

Another half-cent mark-up in refinery prices, it is felt, will be the signal for a general advance of 1 cent in tank wagon and service station prices throughout the New York and New England area, although there is still a possibility that this action will be taken at the present scale of refinery prices in the event that retail markets react favorably to the latest increase in tank car prices.

Marketers operating in New York State are concerned over reports that a strong effort will be made during the new session of the Legislature to increase the gasoline sales tax in this State from 2 cents, the present level, to 4 cents per gallon. Tax revenues from gasoline sales this year have been substantially over those for 1930, notwithstanding the fact that considerable quantities of motor fuel were "bootlegged" here this year.

Other eastern states are also reporting larger tax revenues from gasoline sales this year. Gross receipts from the 4-cent gasoline tax in Maryland during the first 11 months of 1931 were $7,113,407, an increase of approximately $500,000 over the same months last year.

Kerosene

An advance of one-half cent per gallon in tank car kerosene this week brought the market for 41-43 water white up to 6 cents per gallon, and leading sellers are firm at that level. Demand for kerosene has shown a sharp spurt during the week, and gallonage has picked up materially. The current mark-up was initiated by Sinclair Refining Co. and other major interests followed in the advance.

Gallonage has likewise shown a substantial improvement in tank wagon markets, and a stronger undertone has developed. Leading interests here are talking a higher retail market for kerosene, and a general advance of 1 cent per gallon would not come as a surprise.

Heating Oil

A sudden cold snap throughout the territory has brought out heavier demand for domestic heating oils, and the market has developed a decidedly firmer undertone. Sellers who were shading posted prices a fortnight ago, and talking the likelihood of a general reduction, are now once again back at the posted price level, and have strengthened their price views.

Tank wagon deliveries of furnace oil during the week have been the heaviest thus far in the winter season, the mild weather throughout November having left many consumers with practically no oil on hand.

Fuel Oil

Awarding of Navy Department contracts for fuel oil deliveries for the first half of 1932 aroused some interest in market circles during the week. The prices at which these contracts were awarded ranged all the way from 45 cents per barrel to $1.68 per barrel, depending upon port and delivery.

Routine trading was reported throughout the week in the local market, the posted price remaining unchanged at 70 cents per barrel in bulk at marine terminals in the New York Harbor district. Spot trade was rather quiet, but contract withdrawals were well maintained. A better undertone is in evidence in the market, and sellers are more optimistic for 1932.

Diesel Oil

Contract business for 1932 has been taken in considerable volume, and with buyers protected on market changes and with a guaranteed "top" for 1932, principal sellers have experienced no difficulty in holding on to their more important accounts. The spot market continued featureless during the week, with the posted price still unchanged at $1.30 per barrel in bulk at marine terminals here, the lowest price in the recorded history of the industry on the East Coast. Outside offerings of Diesel oil are not being made in any substantial quantities, although a cargo of more than 90,000 bbls. of California Diesel oil is now en route from California on a Socony tanker.

Gas Oil

Principal sellers are holding to the posted price of 4 cents per gallon for recycled gas oil of 28 gravity plus, but some of the smaller sellers are again reported shading the market on spot sales in tank car lots, with 3¾ cents reported done in some instances. Large utility companies continue to draw stocks of gas oil against contract in substantial quantities, and spot movement is picking up as the heating oil market experiences its first real rush under the stimulus of the generally cold weather throughout the territory this week.

Lubs

Continued quiet was evident throughout the cylinder oil market during the past week, and no further price revisions developed on the spot position. Buyers continued to limit their purchases to limited quantities, principally for immediate shipment, and were evidently still looking for a further break in lub oil prices at the refineries. Refiners, however, appear to have substantially stiffened their price views, and whereas buyers in recent weeks have been able to secure attractive concessions on spot purchases, the market has now firmed up to the point where it is doubtful if any bid more than a half cent under quoted prices would buy.

Industrial grades of lub oils remained in quiet position throughout the week, no price changes developing, and tank car movement continuing restricted to small lots.

Export Market

There were no transactions reported in the refined products export market at the Gulf, and prices were without change during the week. A cargo of Panuco, Mexico, heavy crude was reported sold during the week at 52 cents per barrel, plus taxes, for prompt shipment. It is understood that the cargo will move to Europe.

The Venezuelan crude market showed considerable activity, five or six cargoes being closed during the week, all for shipment within the next 90 days. The Venezuelan oil was reported sold at 46 cents per barrel, tidewater.

Petroleum Exports

Volume in export shipments of refined petroleum products again fell off locally during the week, with gallonage showing substantial reductions on all of the principal products.

The following table shows principal exports of refined petroleum products from the port of New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Nov. 28	Nov. 21	Nov. 14
Gasoline	95,000	448,000	180,000
Naphtha	101,000	507,000	352,000
Kerosene	85,000	353,000	32,000
Fuel oil	320,000	395,000	2,000
Lub oil	825,000	1,390,000	678,000
Pet., refined	210,000	3,360,000	595,000
	Pounds		
Petrolatum			13,000
Paraffin wax	1,405,000	1,865,000	2,376,000
Refined	112,000	475,000	285,000
Scale		325,000	375,000
Lub grease	425,000	800,000	800,000

Continued quiet was reported in export circles, and the bulk of recent export movement has consisted of shipments by major integrated companies against standing contracts, or for distribution through their foreign subsidiaries or affiliates.

Imports

Imports of crude and refined petroleum at the principal United States ports during the week ended November 28 totaled 1,105,000 bbls., a daily average of 157,857 bbls., compared with 1,699,000 bbls., a daily average of 242,714 bbls. for the previous week, and a daily average of 199,071 bbls. for the four weeks ended November 28. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast Ports—	Bbls.
Boston	65,000
New York	505,000
Others	288,000
Total	858,000
Daily average	122,571
At Gulf Coast Ports—	
Galveston district	75,000
New Orleans and Baton Rouge	131,000
Tampa	41,000
Total	247,000
Daily average	35,286
At all United States Ports—	
Total	1,105,000
Daily average	157,857
Daily average four weeks	199,071

Distribution of total imports is as follows:

	Bbls.
Crude	531,000
Gasoline	114,000
Fuel oil	460,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended November 28, 1931, totaled 336,000 bbls., a daily average of 48,000 bbls., compared

with no receipts for the previous week and daily average receipts of 36,071 bbls. for the four weeks ended November 28. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast Ports—	Bbls.
Baltimore	30,000
New York	75,000
Philadelphia	231,000
Total	336,000
Daily average	48,000
At Gulf Coast Ports—	
All ports	none
At Atlantic and Gulf Coast Ports—	
Total	336,000
Daily average	48,000
Daily average four weeks	36,071

Distribution of total California oil receipts is as follows:

	Bbls.
Gasoline	333,000
Lubricants	3,000

There were three cargoes of California refined oil cleared for East Coast ports during the week, as follows: 88,000 bbls. of gasoline on the tanker Australia (The Texas Company) for New York, option Baltimore; 93,000 bbls. of Diesel oil on the tanker Levant Arrow(Standard Oil Co. of New York) for New York; and 89,000 bbls. of gasoline on the tanker Christy Payne (Standard Oil Co. of New Jersey) for Seawaren, N. J.

Charter Market

There was more activity reported in the tanker charter market during the week, with considerable of the activity centered in the Black Sea.

Rates continue low and there is still a surplus of both clean and dirty tankers for most runs.

Fixtures reported during the week were as follows:

Motorship Fosna (Swedish) 11,000 tons, clean, San Pedro to U.K./Continent, 17/9, January loading.

Motorship Sveaborg (Swedish) 12,500 tons, clean, Black Sea to Shanghai, 18/-December loading.

Motorship Norvinn (Norwegian) 9,000 tons, clean, two ports, Black Sea to two ports South Africa, 12/9, January loading.

Motorship Strix (Norwegian) 9,500 tons, clean, Black Sea to U.K./Continent, 7/-, December loading.

Motorship Solsten (Norwegian) 7,500 tons, clean, Black Sea to Baltic, 8/6, December loading.

Motorship Literno (Italian) 6,900 tons, clean, Trinidad to London, 7/-, December loading.

Steamer Mendocino (Norwegian) 10,360 tons, deadweight, time charter, Montreal season 1932, 4/-.

Motorship G. C. Brovig (Norwegian) 12,000 tons, dirty, Tampico to Ostermoor, about $1.75, December loading.

Steamer British Lantern (British) 9,000 tons, dirty, Aruba to Teneriffe, 5/9, December loading.

Steamer Aase Maersk (Danish) 8,000 tons, dirty, Black Sea to U.K./Continent, 7/-, December loading.

5,191 tons net, fuel oil, Curacao to

Motorship A. O. Knudsen (Norwegian) Buenos Aires, 8/-, December loading.

EASTERN FIELDS

(Continued from Page 46)

His test is about three-quarters of a mile south of production on the T. B. Tripp farm.

Drilling in Ohio

In Guernsey County, E. C. Quillan and others are down 3,000 feet on the Wilber Cramblett farm in Section 10, Wheeling Township, the center of a fair pool. In the same township and section, the Commonwealth Gas Corp. has reached 2,225 feet in No. 3 on the J. W. Fowler farm. In Jackson Township and Lot 36, Keith and Saladay are drilling on the B. L. Smith farm. In Tuscarawas County, the Gordon Oil Co. is drilling at 2,160 feet on the Clarence Hogue farm, Section 37, Washington Township. In Clay Township, Lot 22, the Oil Fall Drilling & Supply Co. have reached 5,200 feet in a deep test on the Harvey Long farm. Gordon Oil Co. No. 3 and others have a rig standing for No. 4 on the Ralph Huffman farm, Lot 35, Washington Township.

In Jefferson Township, the deep test of the Benedum and Trees interests is still down at 5,300 feet and fishing on the Wayne Coal Co. tract, Section 26, Island Creek Township. In this township, Owens & Co. are drilling on the W. H. McClelland farm in Section 17, and it has passed the 1,000-foot level. Richard Graham and others have spudded and started a second test on the J. A. Blackburn farm, Section 17, Island Creek Township.

In Meigs County, the only well reported drilling is a test of James Simpson and others on the Thomas Jackson farm in Sutton Township. It is now 550 feet deep. In Fairfield Township, the King Johnston Oil & Gas Co. is drilling on the King-Johnston farm in Section 2, Rush Creek Township, which has passed the 1,900-foot mark. In Licking County, George H. Long and others have a test on the Granville Ashcraft farm, Section 23, Fallsbury Township, at 1,800 feet deep. In Morgan County, W. S. Harris is drilling a third well on the F. A. Gifford farm in Section 13, Marion Township.

WEST VIRGINIA

In West Virginia no new production was added and the completions consisted of 9 gas wells and, in addition, 5 dry holes were reported.

In Boone County the Trace Fork Gas Co. completed a very fair well in its second test on the J. Albert Covert farm in Washington district. It was drilled in the Salt sand at a depth of 1,623 feet and is showing for over 750,000 feet a day. In the neighboring county, the Winifrede Co. drilled No. 15 on its Wrightsville tract in Cabin Creek district to a depth of 3,457 feet, or the Brown shale. It proved dry. In the same district, this company drilled No. 17 on its own tract to a depth of 2,450 feet and in the Berea sand. This likewise proved a failure.

In Gilmer County, Q. E. Garrett and others drilled a test on the E. C. Frame farm in Center district in the Injun sand and at a depth of 1,850 feet. It will make a very light gas well. In the same district, McCall & Co. completed No. 4 on the Fletcher H. Stout farm in the Injun sand at 1,933 feet. It is a light gas well. Also in Center district, the Chartiers Oil Co. completed a gas well in No. 4 on the G. D. Stump farm at a depth of 1,779 feet.

In Marshall County, G. B. and A. G. Patterson completed a test on the C. and A. B. Williams farm in Liberty district. It will make a gas well from a depth of 2,950 feet. In Mason County, the Berea Oil & Gas Corp. drilled No. 8 on the W. H. Newton farm in Graham district. It was drilled in the Berea sand and proved to be dry.

In Mingo County, W. H. Norton, trustee, completed a fair gas well in No. 3 on the Riley Spaulding farm in Harvey district. It is showing for 1,250,000 feet a day from a depth of 1,738 feet. In Monongalia County, the Duquesne Gas Co. drilled a test on the Martha Six farm in Battelle district deeper to 3,645 feet. It was a dry hole.

In Ritchie County the Diamond Supply Co. completed a test on the Harrison Wright farm in Union district in the Salt sand at 1,230 feet. It will make a fair gas well. In Grant district, H. N. Rinehart had a dry hole in his No. 7 on the T. E. Moore farm and in the Injun sand.

In Roane County, and on the waters of Rush Fork of Henrys Creek, Smithfield district, the Ohio Valley Gas Corp. drilled a second test on the D. M. Ferrell farm. It went to the Big Injun sand and is showing for a very light gas well. It is about 3,000 feet northwest of the United Fuel Gas Co.'s test on the Thompson Ferrell farm. In Wayne County, Meabon and Huffman completed a fair test on the Jones farm in Stonewall district. It is a gas well in the Big Injun sand.

Drilling in West Virginia

In Roane County, the deep test of the United Fuel Gas Co. on the J. W. Hinzman farm in Curtis district has reached 8,440 feet and is shut down for a new cable. In the same section, W. H. Heeter has had to shut down a second test on the Robert Knopp farm at 890 feet for lack of water. On the L. M. Riddle farm in this district, the Reedy Oil & Gas Co. has a fourth well down 475 feet. In Spencer district, George Smith and others have rigged up on the C. A. Kendall farm and is waiting on water. In this district and on the Dan Connelly farm, J. P. Young and others have a rig standing for a test. On the R. M. Jennings farm in Spencer district, the Ohio Valley Gas Corp. has hauled in the materials for another well. In Reedy district, the Heck Oil Co. is getting ready for a fifth well on the H. W. Allenfarm. In Harper district, the Clifton Oil & Gas Co. has part of the material on the ground for No. 3 on the J. L. Looney farm.

Calhoun County still continues very active. In Center district, Walter Bickerstaff and others have spudded in and started drilling on the John W. Haddox farm. W. H. Bickel has a rig standing for a second test on the George D. Starkey farm, and in No. 5 on the J. M. Bennett heirs farm has a fishing job for casing at a depth of 2,100 feet. In Center district, again, L. S. Ayers and others have a rig standing on the Laura E. Kirby farm, and Godfrey L. Cabot has made a location on the Scott Unstead farm. In Sheridan district, L. B. Carroll is down 1,300 feet on the L. B. Carroll farm. In the same district, the Conservation Oil & Gas Co. have a rig standing on the James Kerby farm. In Lee district, the Mud Lick Oil & Gas Co. is drilling the Almeda Meadows farm and has reached 1,190 feet. On the William H. Wood farm in this district, Harley Ferrell and others are building a rig. F. F. McIntosh has had to shut his No. 4 on the John Riddle farm down at 550 feet waiting on water. The same operator has the materials on the ground for a third well on the Fox and Morgan lease, and has made a location on the Carr Shaffer farm both in Lee district. Ed Hess and others are rigging up for a third well on the John Evans farm, same district, both previous tests being fair gas wells. In Sherman district, W. S. Dailey and others have spudded in and started drilling on the C. T. Stump farm. In Washington district, Holly Jarvis and others have part of the materials on the ground on the Hoke Jarvis farm, and the same operators have made a location on the L. H. Crookshank farm.

In Trap Hill district, Raleigh County, Godfrey L. Cabot is down 2,850 feet in No. 3 on the Beaver Coal Co. tract. In Greenbrier County, the Thompson Harris Co. remains shut down on the Samuel Hinkle farm in Williamsburg district on account of litigation. In Lincoln County, the Kanawha Gas & Utilities Co. has resumed drilling its second test on the Jane Miller farm deeper after recovering the tools. The depth now is 1,676 feet.

SOUTHWEST PENNSYLVANIA

There was one completion in the Southwest Pennsylvania Field. It was Jesse L. Garard & Co.'s No. 25 on the C. Greggs farm in Greene Township, Greene County. It is a Dunkard sand well at a depth of 675 feet and is rated as a 2-bbl. pumper.

In Washington County, the Hopewell Oil & Gas Co. has spudded in and started drilling on the Albert Noble farm in Smith Township. In Amwell Township, Ray Arril & Co. have reached 2,300 feet on the G. L. Walker farm. In Mount Pleasant Township, the Hickory Penn Gas Co. is down 850 feet on the Henry Seik farm. In Chartiers Township, a local stock company has reached 2,500 feet on the A. Woodruff farm. William Dallmeyer is down 1,150 feet on the Thomas Brown farm in Smith Township.

In the lower sections of this field little work is being done. In Whitely Township, Greene County, the Philadelphia Oil Co. has a test on the Olive B. Stevens farm down to 2,060 feet. In the upper section, W. I. Goettman has spudded in and started drilling on the J. C. McKinney farm in Adams Township, Butler County.

SOUTHWEST TEXAS FIELDS

(Continued from Page 36)

production in the Edwards lime. Anderson's No. 1 Suburban Irrigated farm near the Medina County line which had several good showings of gas in the Taylor marl is now down 1,750 feet after topping the chalk at 1,340 feet with no mishaps and should be in the Edwards lime within a week. The showings in the shallower formations make the test interesting.

A little east of that and due north of the town of Somerset in the Somerset Field Ingersoll & Miller and associates after drilling three formation tests down to around 400 feet drilled one test on the Carruth land in the F. Bolen Survey to 780 feet where it is standing with quite a lot of oil in the hole from the Taylor marl. They belive it will make a fairly good shallow well when put on the pump but are moving a mile southwest of that and starting the Amsden-Ingersoll-Miller No. 1 Strumberg which they expect to carry to the Edwards lime. A sulphur odor in the oil from the Taylor in the test on the Carruth land leads them to believe it may be coming up a fault from the Edwards lime.

Slick Pool in Goliad

Another test is to be started in the Slick Pool on the DeWitt-Goliad County line. The Slick estate drilled two oil wells and one dry hole, the first two drilled being producers and the third dry. Now C. R. M. Drilling Co. and H. H. Weinert are starting No. 1 Stopke in the same district which is approximately 20 miles northeast of the Pettus Field. Production was had in the Pettus sand at around 4,200 feet.

KANSAS FIELDS

(Continued from Page 33)

3w, is a location. Twin Drilling Co. and others made location for No. 1 Farver, SW cor. SE, Section 16-20-1w. W. C. McBride, Inc.'s No. 3 Whitwright, C NW SW, Section 30-19-1w, has been completed for 3,800,000 feet of gas in chat 2,920-45 feet. Wolf Creek Oil Co. and others' No. 1 McMurry, NE cor., Section 1-20-2w, made a potential gauge of 1,382 bbls. in Viola lime at 3,403-25 feet.

Reno County

Engler and others' No. 1 Balzer, SE cor. NW, Section 36-22-4w, is moving in. James Madison and others' No. 1 Esau, NE cor. SE, Section 12-22-4w, is dry and abandoned at 3,320 feet. Study, Turner and Frost Drilling Co.'s No. 1 Houry, SE cor. NW, Section 1-23-4w, has been deepened from 3,365 feet to 3,374 feet and flowed 72 bbls.

Sedgwick County

National Refining Co. and others' No. 1 Murdock, SW cor. SE SE, Section 18-27-2, Wichita area, is rigging up to deepen from 2,965 feet. Derby Oil Co.'s No. 2 Eastborough, SE cor. SW NE, Section 19-27-2, has been completed for 500 bbls. in sand 3,230-46 feet, after deepening from 2,991 feet. Fisher & Lauck's No. 8 Trustee, NW cor. NE SE, Section 19-27-2, has been deepened from 2,963½ feet to sand 3,241-45½ feet and completed for 231 bbls. Magnolia Petroleum Co.'s No. 1 Wheeler, SW cor. SE NE, Section 19-27-2, pumped 400 bbls. after being deepened from 2,970 feet to 3,247 feet.

TEXAS I. P. A. MEETING

FORT WORTH, Tex., Dec. 7.—Claude C. Wild, executive vice president of the Independent Petroleum Association of Texas, announces that the annual membership meeting of the association will be held December 15 at the Adolphus Hotel, Dallas, Tex. The purpose of the meeting will be to elect directors for the next year, election of officers by these directors, and consideration of two major planks proposed by the American Petroleum Institute pertaining to unitization and to the acreage content conception of oil ownership.

ROCKY MOUNTAIN AREA

(Continued from Page 71)

the 6¼-inch at 2,315 feet and is cleaning out.

In the Barthelote district, Oregon Oil Syndicate's No. 1 Barthelote, SW NE SE Section 20-36-2e, landed the 8¼-inch at 1,710 feet and is cleaning out.

UTAH

Utah Southern Oil Co.'s No. 1 Balsey, C NE NE Section 31-23-21, Grand County, is drilling at 4,350 feet in salt. It has penetrated 3,500 feet of practically continuous salt and it is believed it is now near the bottom of the beds. The Ordovician (pre-Pennsylvanian) which is the objective, is estimated to be 1,000 to 1,500 feet thick.

IDAHO

R. J. Berry and others' No. 1 Kramlich, NW SE NW Section 5-9n-4w, Crystal Dome, Payette County, is drilling at 3,000 feet in the fourth water sand.

Pipe Line Runs

Average daily pipe line runs for the week ended December 5:

WYOMING	
Salt Creek	18,680
Big Muddy	1,720
Greybull	10
Dallas-Derby	650
Dutton Creek	70
Elk Basin	590
Ferris	40
Frannie	1,690
Grass Creek	2,070
Hamilton Dome	930
Hudson	290
LaBarge	1,850
Lance Creek	280
Lost Soldier	3,810
Midway	110
Oregon Basin	220
Osage	380
Pilot Butte	40
Rock River	1,760
Poison Spider	70
Teapot	20
Total Wyoming	35,280
MONTANA	
Buckley-Border	520
Cat Creek	930
Dry Creek	250
Kevin-Sunburst	4,710
Lake Basin	70
Pondera	1,060
Total Montana	7,540
COLORADO	
Florence	330
Fort Collins	960
Iles	920
Moffat	760
Orchard	670
Rangely	20
Tow Creek	300
Total Colorado	3,960
NEW MEXICO	
Rattlesnake	675
Hogback	500
Table Mesa	30
Artesia	500
Cap Rock	1,135
Hobbs	37,185
Jal	1,010
Lea City	1,845
Eunice	496
Total New Mexico	43,426
Total Rocky Mountain area	90,206
Total previous week	91,555
Difference	1,349

NORTH AND WEST TEXAS

(Continued from Page 26)

porarily abandoned, location. Flake & Haher's No. 2 Frerick, dry and abandoned, total depth 2,324 feet. Gray & Johnson's No. 2 Webb, temporarily abandoned location. Schultz & Weaver's No. 6 F. C. Green, sandy lime 1,114-35 feet, shot 80 quarts, initial production pumping 100 bbls., total depth 1,147 feet. Texas Plains Oil Co.'s No. 1 Terrell, dry and abandoned, total depth 711 feet.

Clay County

Ikard & Gobel's No. 17-A G. W. Byers, oil sand 1,017-20 feet, initial production 45 bbls., total depth 1,020 feet.

Wichita County

Conrey and others' No. 1 John Wibener, oil sand 250-58 feet, initial production 6 bbls., total depth 258 feet; No. 2 John Wibener, dry and abandoned, total depth 270 feet; No. 3 John Wibener, oil sand 250-53 feet, initial production 50 bbls., total depth 253 feet; No. 4 John Wibener, dry and abandoned, total depth 262 feet; No. 5 John Wibener, oil sand 249-51 feet, initial production 15 bbls., total depth 251 feet; No. 6 John Wibener, oil sand 259-61 feet, initial production 8 bbls., total depth 261 feet; No. 7 John Wibener, oil sand 258-62 feet, initial production 3 bbls., total depth 262 feet; No. 8 John Wibener, oil sand 256-63 feet, initial production 8 bbls., total depth 263 feet; No. 9 John Wibener, dry and abandoned, total depth 268 feet; No. 10 John Wibener, dry and abandoned, total depth 600 feet; No. 11 John Wibener, oil sand 266-70 feet, shot 15 quarts, initial production 5 bbls., total depth 270 feet.

John Arrington's No. 1 Overall, oil sand 826-35 feet, initial production 5 bbls., total depth 835 feet. Arrington's No. 2 Overall, oil sand 879-83 feet, initial production 45 bbls., total depth 883 feet. Consolidated and Primrose Oil Co.'s No. 1 Munger, dry and abandoned, total depth 3,913 feet. W. R. Fullerton's No. 7 Foster Allen, oil sand 776-82 feet, initial production 8 bbls. oil and 3 bbls. of water, total depth 826 feet. George J. Proctor's No. 5 Honaker, temporarily abandoned location. Schlaffke & Blair's No. 5 Honaker, temporarily abandoned location. Schlaffke & Blair's No. 6 Honaker, temporarily abandoned location.

Wilbarger County

W. W. Bennett's No. 1 Hawley, temporarily abandoned, total depth 1,572 feet. Golding & Cochran's No. 7 Waggoner, dry and abandoned, total depth 2,430 feet.

Young County

Brand & Seaberry's No. 1 Cullers, oil sand 560-70 feet, initial production estimated 40 bbls., total depth 570 feet. King Royalty Co.'s No. 31 Larimore, oil sand 657-67 feet, initial production 30 bbls., total depth 667 feet. Same company's No. 32 Larimore, oil sand 664-72 feet, initial production 115 bbls., total depth 673 feet. George Mollenkoph's No. 1 Jeffery, dry and abandoned, total depth 833 feet.

Petroleum Producers Co.'s No. 1-C Jeffery, dry and abandoned, total depth 860 feet. Producers Co.'s No. 8 Finch, oil sand 621-39 feet, shot 10 quarts, initial production 15 bbls., total depth 640 feet. Dwight M. Ross' No. 1 Graham, dry and abandoned, total depth 570 feet. Swink & Smith's No. 7 Belknap, oil sand 662-68 feet and 691-700 feet, pumped 65 bbls., total depth 700 feet. Terrell & Watson's No. 2 Terrell, temporarily abandoned location. Upshaw & Dennis' No. 1 Lowe, dry and abandoned, total depth 858 feet. Wooten & Reed's No. 1 Davis, dry and abandoned, total depth 1,040 feet.

COMPLETIONS IN PANHANDLE DISTRICT

Carson County

Ryan Consolidated Oil Co.'s No. 7 Block, lime pay 3,022-90 feet, shot 200 quarts from 3,023-94 feet, initial production 120 bbls., total depth 3,108 feet.

Gray County

Anderson-Bean's No. 2 Thompson, shot 120 quarts from 3,161-3,266 feet, initial production 200 bbls. per day, total depth 3,266 feet.

Kewanee Oil & Gas Co.'s No. 4 Smith, shot 200 quarts from 3,181-3,268 feet, initial production 369 bbls. per day, total depth 3,276 feet.

Skelly Oil Co.'s No. 2 Heaston, lime pay 3,180-3,250 feet, shot 210 quarts 3,206-90 feet, initial production 430 bbls. per day, total depth 3,290 feet.

Hutchinson County

Smith-McDannald's No. 3-A Pitcher, pay 3,070-3,115 feet, shot 180 quarts from 3,065-3,137 feet, initial production 175 bbls. on pump, total depth 3,152 feet.

COMPLETIONS IN RANGER DISTRICT

Brown County

F. L. Lane's No. 1 Jesse Copeland, gas sand 1,459-62 feet, 1,464-69 feet, initial production 2,000,000 feet of gas, total depth 1,469 feet. Charter Oil Co.'s No. 1 W. H. Price, dry and abandoned, total depth 1,290 feet.

Coleman County

Jackson and others' No. 1 Waggoner, dry and abandoned, total depth 1,572 feet. Groves and Shield's No. 1 W. T. Mitchell, location abandoned. McGahey and others' No. 2 Overall, temporarily abandoned location.

Palo Pinto County

Pace and Ward's No. 1 Zuseman, temporarily abandoned, total depth 1,300 feet. F. L. Walker and others' No. 1 C. E. Benninger, top lime 2,972 feet, pay sand 2,997-98 feet, initial production 24,000,000 feet of gas, total depth 3,017 feet.

COMPLETIONS IN WEST TEXAS

Loving County

Carl Cromwell and Atlantic Oil & Production Co.'s No. 2 G. B. Russell and others, temporarily abandoned.

Irion County

Denny and Andrews' No. 1-A Tanksersley, dry and abandoned, total depth 463 feet.

Upton County

R. H. Gill and others' No. 1 J. H. Shirk, temporarily abandoned, total depth 2,727 feet. Texas Pacific Coal & Oil Co. and others' No. 2 J. H. Shirk, top pay 2,425 feet, increase at 2,445 feet, initial production 363 bbls. in 24 hours pumping, total depth 2,465 feet.

Ward County

Fred Postelle and others' No. 1 Lee Monroe, top pay 2,409 feet, initial production 40 bbls. per day flowing through casing, total depth 2,450 feet. Hankinson and others' No. 1 A. Emory, temporarily abandoned, total depth 2,238 feet.

NORTH CENTRAL TEXAS PRODUCTION
Week Ending December 5

Panhandle district—	Bbls.
Carson County	4,901
Gray County	32,186
Hutchinson County	14,081
Moore County	1,847
Wheeler County	522
Total production this week	53,537
Total production last week	55,608
Decrease	2,071
Wichital Falls district—	
Archer County	12,149
Baylor County	558
Clay County	573
Cooke County	1,736
Foard County	70
Haskell County	17
Jack County	2,034
Montague County	4,037
Throckmorton County	543
Wichita County	17,869
Wilbarger County	11,796
Young County	11,876
Total production this week	63,258
Total production last week	63,757
Decrease	499
Ranger district—	
Brown County	2,900
Callahan County	1,502
Coleman County	3,058
Comanche County	765
Palo Pinto County	362
Eastland County	2,708
Shackelford County	3,325
Stephens County	4,218
Total production this week	18,838
Total production last week	18,894
Decrease	56

EAST TEXAS FIELDS

(Continued from Page 25)

Elliott's No. 1 Alford, Isaac Parker Survey, pumps 67 bbls. per day. Elliott's No. 1 Deason, Juan Ximines Survey, pumps 100 bbls. per day. Federated Oil Co.'s No. 1 Camp, Juan Ximines Survey, pumps 125 bbls. in 15 hours. Same company's No. 2 Camp, Juan Ximines Survey, pumps 125 bbls. in 15 hours. Same company's No. 3 Camp, Juan Ximines Survey, pumps 125 bbls. in 15 hours. Same company's No. 4 Camp, Juan Ximines Survey, pumps 125 bbls. in 15 hours. Same company's No. 1 Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 12 hours. Same company's No. 2 Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 12 hours. Same company's No. 3 Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 12 hours. Fitzsimmons' No. 1 Alford, Isaac Parker Survey, pumps 125 bbls. per day. Foster & Klop's No. 1-A Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 12 hours. Foster & Klop's No. 2-A Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 12 hours. Foster & Little's No. 1-B Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 12 hours. Foster & Little's No. 2-B Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 12 hours. Gilcrease's (Meridian Petroleum Co.) No. 1 Bradford, Juan Ximines Survey, pumps 125 bbls. in 6 hours. Gilcrease's No. 2 Bradford, Juan Ximines Survey, pumps 125 bbls. in 6 hours. Gilcrease's No. 3 Bradford, Juan Ximines Survey, pumps 125 bbls. in 6 hours. Humble Oil & Refining Co.'s No. 1 McDavid, Thomas H. Smith Survey, pumps 5 to 12 bbls. in 19 hours. Same company's No. 1 Alexander, Thomas H. Smith Survey, pumps 5 to 12 bbls. in 19 hours. H. L. Hunt's Nos. 1, 2, 3, 4 and 5 Ashby, Juan Ximines Survey, pumps 382 bbls. per day. H. L. Hunt's Nos. 1 and 2 Bradford, Juan Ximines Survey, pumps 44 bbls. per day. H. L. Hunt's No. 1 Camp, Juan Ximines Survey, pumps 125 bbls. per day. H. L. Hunt's No. 1 Mayfield-Alford, Juan Ximines Survey, pumps 125 bbls. in 14 hours.

K. & M. Oil Co.'s (Phillips) No. 1 Alford, Isaac Parker Survey, pumps 125 bbls. in 12 hours. Joiner's No. 3 Bradford, pumps 75 bbls. per day. Lasater's No. 1 Maxwell, Isaac Parker Survey, pumps 125 bbls. per day. Lide & Taylor's No. 2 Young, M. J. Pru Survey, flows and pumps 125 bbls. in 5 hours. Lively & Bryan's No. 1 Camp, Juan Ximines Survey, pumps 50 bbls. per day. Luling Oil & Gas Co.'s No. 1 Frederick, Juan Ximines Survey, pumping (no gauge). Merric Drilling Co.'s No. 1 Ashby, Juan Ximines Survey, pumps 125 bbls. per day. Mitchell's No. 1 Frederick, Juan Ximines Survey, pumping (no gauge). Moss & Urschel's No. 1 Mayfield-Alford, Juan Ximines Survey, pumps 25 bbls. in 24 hours. Moss & Urschel's No. 2 Mayfield-Alford, Juan Ximines Survey, pumps 25 bbls. in 24 hours. Petroleum Marketing Co.'s No. 1 Arnold, M. J. Pru Survey, pumps one day then flows. Same company's No. 1 Camp, Juan Ximines Survey, pumps 125 bbls. in 15 hours. Same company's No. 1 Frederick, Juan Ximines Survey, pumps 125 bbls. in 14 hours. Rusco's No. 1 Bradford, Juan Ximines Survey, pumps 14 bbls. per day. Shaw's No. 1 Ashby, Juan Ximines Survey, pumps 125 bbls. per day. Shaw's No. 2 Ashby, Juan Ximines Survey, pumps 125 bbls. per day. Shaw's No. 3 Ashby, Juan Ximines Survey, pumps 125 bbls. per day. Stroube & Stroube's No. 1 Frederick, Juan Ximines Survey, pumping. Thompson & Beane's No. 1 Alford, Isaac Parker Survey, pumps 75 bbls. in 24 hours. Tidal Oil Co.'s No. 1 Holland, Juan Ximines Survey, pumps 125 bbls. per day. Wainwright-West Oils, Ltd.'s No. 1 Camp, Juan Ximines Survey, pumps 125 bbls. in 5 hours. Same operators' No. 2 Camp, Juan Ximines Survey, pumps 125 bbls. in 5 hours. West Texas' No. 1 Talley, Juan Ximines Survey, pumps 125 bbls. per day. West Texas' No. 2 Talley, Juan Ximines Survey, pumps 125 bbls. per day. East Texas Refining Co.'s No. 1 Mayfield, D. Clark Survey, pumping. Gibson & Adams' No. 1 Collier, Mary Van Winkle Survey, pumping. Madden's No. 1 Mayfield, D. Clark Survey, pumping. Magnolia Petroleum Co.'s No. 2 Dick Wells, Henry Hobson Survey, pumping. Sinclair Oil & Gas Co.'s No. 1 Kennedy, Henry Hobson Survey, pumping. Shell Petroleum Corp.'s No. 1 Holt, Daniel Clark Survey, pumping. Wheelock & Collins' No. 4 Dick Wells, H. Hobson Survey, pumping.

Wells Which Flow When Agitated

Anderson's No. 1 Frederick, Juan Ximines Survey, agitate with pump to flow. Same party's No. 2 Frederick, Juan Ximines Survey, agitate with pump to flow. J. G. Bass and others' No. 1-A Young, M. J. Pru Survey, now flowing. Crabtree's No. 1 Giles, M. J. Pru Survey, agitate with pump once a week. East Texas Refining Co.'s No. 1 Holland, Juan Ximines Survey, agitate with pump to flow. Same company's No. 2 Holland, Juan Ximines Survey, now flowing, rig up, Lufkin unit. Foster and Jeffries' No. 1 Deason, M. J. Pru Survey, flowing, agitate by pump. Fox and Butler's No. 2 Thrash, M. J. Pru Survey, agitate to start flow with pump. Same parties' No. 3 Thrash, M. J. Pru Survey, agitate with pump to start flow.

Gilcrease's No. 4 Bradford, Juan Ximines Survey, agitate with pump to flow. H. L. Hunt's (tennant resident) No. 1 Bradford, Juan Ximines Survey, agitate with pump to flow. Same party's No. 3 Bradford, Juan Ximines Survey, agitate with pump to flow. Lide and Taylor's No. 2 Young, M. J. Pru Survey,

flows and pumps 125 bbls. in five hours. Lion Oil & Refining Co.'s No. 3-B Brooks, M. J. Pru Survey, swabbed, will not flow, waiting on standard rig. Moss and Urschel's No. 1 Deason, M. J. Pru Survey, flowing, swabbed to agitate. Pilot Oil Co.'s No. 1 Finney, Juan Ximines Survey, agitate by pump to flow. Same company's No. 2 Finney, Juan Ximines Survey, agitate by pump to flow. Roberts Oil Corp.'s No. 1 Ashby, Juan Ximines Survey, agitate with pump to flow.

Sinclair Oil & Gas Co.'s Nos. 1, 2, 3, 4, 5 Holland, Juan Ximines Survey, agitate with pump to flow, will die when shut in. Same company's No. 6 Holland, Juan Ximines Survey, agitate with pump to flow. Same company's No. 7 Holland, Juan Ximines Survey, agitate with pump to flow. Same company's No. 8 Holland, Juan Ximines Survey, flows, will die when shut in. Tidal Oil Co.'s No. 2 Holland, Juan Ximines Survey, flowing, agitate with pump. Turman's No. 3 Dark, M. J. Pru Survey, agitate with pump to start flowing.

List of Dead Well in East Texas Field

Babcock Brothers' No. 2 Camp, Juan Ximines Survey, standing. Big Indian Oil Co.'s No. 2 Deason, M. J. Pru Survey, dead, rig up to pump. Elzy Drilling Co.'s No. 1 Camp, Juan Ximines Survey, standing. Hammond's No. 1 Camp, Juan Ximines Survey, standing. Lively and Bryan's No. 1 Cox, R. H. Peeny Survey, dead, standing. Mabee's No. 1 Maxwell, Isaac Parker Survey, standing. Tautenhahan's No. 1 Camp, Juan Ximines Survey, standing. Tex-Floyd's No. 1 Camp, Juan Ximines Survey, standing. Vitek Oil Co.'s No. 1 Dunkin (Jobe), Juan Ximines Survey, standing. Almo Petroleum Co.'s No. 1 Younce, W. Goodman, Survey, dead and will drill deeper. Granite Oil, trustee's No. 1 Victory, E. A. J. Evans Survey, dead and near water line, to be plugged back. Taxman Oil's No. 1 Callahan, E. A. J. Evans Survey, dead, will plug back. Manson Oil Co.'s No. 1 Barrett, B. W. Witcher Survey, unable to flow the allowable production. Pelican Natural Gas Co.'s No. 1 E. H. Hamilton, Chandler Survey, unable to flow the allowable production of 125 bbls.

WILBUR RENEWS HIS PLEA FOR COMPACT

(Continued from Page 15)

"Whoever, having the custody of, or access to, by virtue of his employment by the United States, any record, proceeding, report, map, book, document, paper, or other thing specified in Section 234, United States Code (Criminal Code, Section 128) shall sell or publish the same or publish information contained therein, without the permission of Congress, or of the head of the bureau or department or other establishment having jurisdiction thereof, shall be fined not more than $2,000 or imprisoned not more than three years, or both."

"Currently," the secretary says, "we have under way the immense task of adjudicating the status of all outstanding claims which the Kelley fiasco temporarily interrupted. We have requested the senate committee on public lands to continue to a thorough conclusion its examination of the oil shale matter, particularly if it can lead to legislation clarifying the questions left uncertain by the leasing act."

How Government Has Helped

Discussing his conservation policy initiated March 12, 1929, and restated at the Colorado Springs conference of June, 1929, he said this movement has had significant results.

"Pointing out on these two occasions the wastes of gas and oil attendant on overproduction, the Government pledged first a cessation of speculative prospecting on the public domain, second a program of orderly production from government fields such as Kettleman Hills, and third, urged the states, who alone have a measure of control over production on private lands, to co-ordinate their production through an interstate compact so that curtailment in one state could not be offset by increased production in another," he said.

"Today the oil industry has back of it for the first time a stabilized source of supply and in front of it an indicated demand for 1932 which shows little effect of the depression.

"Specifically, the Government's efforts have reduced the outstanding prospecting permits from 17,431 to 3,750. The government lands in Kettleman Hills were unitized and production there was stabilized at 60,000 bbls. daily from a field capable of producing 300,000 bbls. daily at low costs, coupled with almost complete cessation of gas wastage which previously had exceeded 150,000,000 feet a day. The Kettleman operators have voluntarily set a fine example of conservation and teamwork.

Interstate Agreement

"Two years after the Colorado Springs conference a compact in informal form was signed on September 13, 1931, by the governors of Oklahoma, Kansas and Texas, setting quotas for each state's production so that the country's daily total during 1932 and the balance of 1931 will not exceed 2,379,000 bbls. It has been fairly well followed and it was immediately effective in raising oil prices above prevailing distress levels. It was preceded and made possible by the efforts of the Oil States Advisory Committee, which presented a plan based on an interstate compact to the Federal Oil Conservation Board in April, and by the efforts of the Kansas Public Service Commission, the Oklahoma Corporation Commission and the Texas Railroad Commission. These enforcing agencies met on September 11 and agreed upon a production allocation under the chairmanship of Thurman P. Hill, and the agreement was signed on behalf of their organizations and their governors on September 13, with the co-operation of Chairman Cicero I. Murray of the Oil States Advisory Committee. Its provisions have been temporarily enforced by martial law in Texas and Oklahoma on the initiative of the governors of those states."

State-Federal Structure

Referring further to the subject of interstate compacts, the secretary says:

"Though time may be necessary to work it out, what we must eventually see is a state-federal structure based on an interstate compact, as was pointed out at Colorado Springs and in the Federal Oil Conservation Board's 1929 report, for the problem requires exercise of governmental powers not possessed completely by either sovereignty. Each state must enact its own conservation laws within its own borders. But their effect should be co-ordinated through an interstate advisory board created by an interstate compact. This board should study demand and supply, as the Federal Oil Conservation Board's economic committee now does, and recommend state quotas to meet it: it should draft and recommend model conservation laws; it should be a clearing house for joint action. But the domestic quota is a relative term depending on world production. Negotiations for foreign co-operation in equating production should be carried on under federal auspices with the co-operation of the interstate board. Such negotiations are academic in the absence of a compact because under the constitution the Federal Government cannot enforce a production quota within any state. The Kansas-Oklahoma-Texas agreement is a courageous and sensible beginning.

Federal Legislation

"In order to make unit operation on public lands legally possible, the department presented to Congress amendments to Sections 17 and 27 of the mineral leasing act, which were enacted in the act of July 3, 1930. This was a temporary act, expiring January 31, 1931. The Kettleman unit plan agreement was inaugurated under it before its expiration, as was another unit plan agreement in Little Buffalo Basin, Wyoming. Thereafter, the department recommended that this policy be enacted in permanent legislation, and the act of March 4, 1931, accomplishes that purpose. This action by Congress set a notable example for state conservation efforts. It is interesting to note that Congress has twice had the mineral leasing act before it for amendments since the inauguration of the oil conservation policy in March, 1929, and the conservation efforts of the department have encountered no adverse legislation.

Litigation

"The administration's conservation policy was attacked by several mandamus actions in the District of Columbia Supreme Court, designed to compel an acceptance of applications for prospecting permits and the issuance of permits. Four test cases involving various phases of the conservation policy were carried to the U. S. Supreme Court after the department had been upheld by the court of appeals. On May 18, 1931, the supreme court rendered a decision to the effect that the steps taken by the Secretary of the Interior were within his discretion, under the mineral leasing act, and declining to interfere therewith.

Operations on Public Domain

"Oil production on the public domain last year was 23,821,111 bbls.; 41,962,184,000 feet of gas were produced and 111,499,598 gallons of natural gasoline. These figures represent a decrease in crude oil production of 3,598,398 bbls., or 13.12 per cent, an increase of gas utilization of 2,838,068,000 feet, or 7.25 per cent, and an increase of natural gasoline utilization of 10,029,297 gallons, or 9.88 per cent. Completion of new wells dropped from 209 to 146, or 30 per cent. Completions for the first six months of 1931 dropped to 30, from the 1930 figure of 73, a decrease of 59 per cent. Wells shut in on the public domain increased from 599 on July 1, 1930, to 699 on July 1, 1931, or approximately 17 per cent. Permits outstanding on July 1, 1931, totaled 3,750, as against 17,431 on March 1, 1929. Our policy of house cleaning the speculative paper which had encumbered the public domain has produced results; eventually it will be down to a working basis of bona fide permits upon which a structure of conservative exploration can be built.

"At present the following practices characterize the operation of this policy as to oil and gas: (1) Extension of permits for periods of two years on condition that no drilling be done during the first year, unless sooner authorized or required by the Secretary. (2) The issuance of leases on discovery with provision for drilling and producing only such wells as are required to offset drainage. (3) authorization of drilling programs on leases on the basis of one well per 40-acre tract. (4) Acceptance of compensatory royalty in lieu of drilling wells to offset drainage from adjoining lands. (5) Collection of 5 cents per 1,000 feet for all natural gas wasted by blowing into the air.

"All equities under bona fide permits are being liberally dealt with. Extensions are granted where equities justify it and new permits are issued when adequate showing is made of equities established before the conservation order of March, 1929, went into effect. Thus, during the past year 103 oil and gas leases covering 63,102 acres and 91 permits covering 142,196 acres were issued.

"We can look forward now to an eventual resumption of activity on the public lands under sound and conservative practices which will substitute unit operation and ratable production for the orgy of speculation which had covered 15,000,000 acres with over 17,000 permits, less than 4,000 of which ever complied with the leasing law's development requirement, and all of which were ready tinder for a blaze of speculative activity in case of another major discovery."

TWO NEW PRODUCERS COMPLETED IN MICHIGAN'S NEW EAST POOL

By Special Correspondent

MOUNT PLEASANT, Mich., Dec. 5. Completion of two commercial oil producers in the new east field, three tests in scattered locations and the beginning of two new projects in the east field comprised the chief developments in the Central Michigan oil and gas fields this week.

Columbia Oil & Gas Co. drilled in No. 2 Hornick, Midland County, Greendale Township, NE NW NW Section 15, December 4, the well flowing approximately 45 bbls. an hour. The Dundee was struck at 3,500 feet, top of the pay at 3,534 feet and the 45-bbl. an hour production is being made from 3,537 feet. The new east pool now has 20 producers.

The second producer of the week was No. 1 Rheimenschnider, located in the same township, NW NW NE Section 14, a project of Strange-Weller. The Dundee was reached at 3,495 feet, the first pay at 10 bbls. an hour at 3,555 feet and the well was drilled to a total depth of 3,567 feet. Production has dropped to less than 200 bbls. a day. The well is about 1 mile east of the proven pool.

All of the three tests for gas are being abandoned as dry holes. Michigan Oil & Gas Co. drilled No. 1 Coyne, Clare County, Grant Township, C SE SE Section 18, into water at 1,535 feet. The Marshall sand was reached at 1,530 feet and the well is being plugged.

No. 1 Ben Loomis, Vernon Township, SW SW SE Section 16, project of the Old Dutch Refining Co., was drilled into water at 3,824 feet, and is being plugged. The Dundee was reached at 3,825 feet.

In Gratiot County, Hamilton Township, SE NE NE Section 28, has been plugged as a dry hole. Water was encountered at 818 feet and drilling stopped at 823 feet. A show of gas was reported at 783 feet.

Production on the Columbia Oil & Gas Co.'s No. 2 McLaughlin, Midland County, Greendale Township, Section 15, was increased from 300 bbls. a day to 550 bbls. a day when the well was drilled 17 feet deeper this week to a total depth of 3,570 feet. It is one of the greatest depths in the east pool where production has been found. The bulk of the wells in the pool have produced from 3,530-60 feet.

Permits were issued by the State Conservation Department for two new wells: No. 3 Adams, by the Talbot Oil Co., Midland County, Greendale Township, NE SE SE Section 10, and No. 1 Jones-Woodruff by Bertha Jones, same township, NW NW SW Section 13.

Possibility that oil has been discovered in Huron County was indicated when it was reported from Bad Axe, Mich., that oil was oozing from the capped test well in Sheridan Township, 11 miles from Bad Axe. The discovery was made by William Ballagh, who owns the farm. Drilling was abandoned in September when a depth of 4,000 feet was reached. It is a project of the Pacific Oil & Gas Co., and the first well to be drilled in Huron County.

CHILDRESS RATE ISSUE

CHILDRESS, Tex., Dec. 7.—Mayor J. W. Mitchell has received notice from the Texas Railroad Commission that gas rates ordered by the city have been set aside until a hearing can be had by the commission. The Northern Texas Utility Co., owners of the local gas system, was required to post a bond of $10,000 to repay the customers the difference between the present rates and the rates set by the commission, if the rates should be lower. The present rate is 67½ cents per 1,000 feet, net.

The city council at its November meeting passed an ordinance putting the rate at 50 cents per 1,000 feet, to take effect December 1. The company a few weeks ago asked the council to permit the company to put into effect a lower rate for those using above a certain amount of gas, but the council refused that permission.

At this time the council is seeking to make a contract with a company to pipe gas to the city limits, the city to either condemn the present system or put in another. Action will depend upon the final decision of the Railroad Commission.

NEW LOCATIONS MADE IN HEBRON, PA., FIELD

WELLSBORO, Pa., Dec. 5.—Another uneventful week in the Tioga and Wayne-Dundee gas fields is on record, but interest was attracted to the Potter County, Pennsylvania, field where the Allegany Gas Co. has started two wells in the Hebron area, as a result of the gas strike by Hungiville and others on the Booth farm, between Coudersport and Shinglehouse. The new locations made were No. 1 Carmer and No. 1 Emporium Lumber Co. lands.

In the Tioga area the Lycoming Natural Gas Co.'s No. 1 Wheeler has resumed drilling after cleaning out at 5,025 feet. The hole is 5,525 feet deep. The same company's No. 2 Boom was drilling below 3,709 feet and should soon reach the Oriskany sand horizon. Confidence is expressed in this well being a producer.

The Allegany Gas Co. was drilling below 1,500 feet in No. 1 E. J. Hall, in Farmington Township, Tioga County, and is below 4,800 feet in its No. 1 Davey, near Mansfield, Tioga County.

The Penn United Gas Co.'s No. 2 Meaker was down 3,500 feet and its No. 1 Wilston was drilling below 500 feet.

The Wells Co.'s No. 1 Tioga County farm was drilling out cement at 5,100 feet. Allen M. Reed, trustee, is reported to have started drilling No. 1 Gee in Lawrence Township.

FUEL CONSUMPTION BY REFINERIES INCREASING

(Continued from Page 28)

average consumption per barrel of crude refined in the Central States in 1930 amounted to 816,000, as compared with 827,000 in 1929. This district is one of the few that has shown a consistent reduction in average heat requirements. The consumption of coal in the Central States showed a further decline in 1930 when the total used, 785,000 short tons, fell below the consumption in the Appalachian district. The use of oil decreased but it remained as the most important fuel. The second ranking fuel in importance was refinery gas, the consumption of which in 1930 amounted to 20,321,000,000 cubic feet, an increase over 1929 of 33 per cent, and an amount nearly four times as large as the 1925 total. An interesting development in the refineries of the Central States in 1930 was the advent of natural gas as a fuel. The quantity used was small—only 150,000,000 cubic feet—and all consumed by one plant near St. Louis. This natural gas was transported from Louisiana, and the fact that after being transported several hundred miles it was able to compete with fuel made at the plant is of considerable significance.

Notable Progress in Economy Made

Oklahoma—The refineries in Oklahoma made notable progress in fuel economy in 1930 when the average heat requirement was lowered to 597,000 B.t.u. from 645,000 B.t.u. in 1929. This reduction resulted chiefly from a decline of 1,001,000 bbls. in the consumption of oil. The consumption of coal as refinery fuel in Oklahoma in 1930 amounted to less than 500 short tons. The use of natural gas continued to decline, that of refinery gas to increase. The consumption of coke rose from a few short tons in 1929 to 18,000 short tons in 1930.

Kansas and Missouri—The 18 refineries which operated in Kansas and Missouri during 1930 consumed a total of 33,685,000,000,000 B.t.u. in the processing of 38,817,000 bbls. of crude oil. These data indicate an average consumption of 868,000 B.t.u. per barrel, a slight increase over the average of 847,000 B.t.u. recorded in 1929. As was the case in Oklahoma, the consumption of both oil and coal declined in 1930, while the use of both refinery gas and coke increased.

Texas Inland District—The refineries in the inland parts of Texas, or in Texas exclusive of the Gulf Coast, increased their crude runs from 58,313,000 bbls. in 1929 to 60,400,000 bbls. in 1930, and their fuel consumption from 19,479,000,000,000 B.t.u. in 1929 to 24,718,000,000,000 B.t.u. in 1930. The average B.t.u. requirement per barrel of crude refined, therefore, increased from 334,000 in 1929 to 409,000 in 1930.

Texas Gulf Coast—The refineries in the Texas Gulf Coast area utilized 135,939,000,000,000 B.t.u. in 1930. This was the largest amount of heat utilized by any district in that year. The total crude oil processed in the district in 1930 amounted to 154,912,000 bbls., hence the average heat requirement per barrel was 878,000 B.t.u. Compared with 1929, this represents a small increase in average heat requirements. Like the majority of the other districts, the Texas Gulf Coast group of refineries recorded a decline in the consumption of oil and an increase in the consumption of refinery gas, but, unlike the majority of cases, the consumption of natural gas showed an increase.

Arkansas and Inland Louisiana—The comparatively small group of refineries located in Arkansas and in northern Louisiana utilized 9,423,000,000,000 B.t.u. in 1930 in the refining of 20,659,000 bbls. of crude oil. This indicates an average consumption of 456,000 B.t.u. per barrel, which, though an increase over 1929, is lower than for the other districts except California and inland Texas. Natural gas continued as the chief refinery fuel, although its consumption declined in 1930 while that of both oil and refinery gas increased.

Louisiana Gulf Coast—Only four plants were operated in the Louisiana Gulf Coast area in 1930, but these had a total crude throughput of 40,835,000 bbls., or nearly double the crude runs in the refineries of Arkansas and inland Louisiana. Although nearly 10,000,000 bbls. less of crude oil was run in 1930 than in 1929, the heat utilized in processing declined even more, so that the average requirement per barrel fell from 836,000 B.t.u. in 1929 to 812,000 B.t.u. in 1930. The consumption of all classes of refinery fuels in the Louisiana Gulf Coast area declined in 1930 with refinery gas showing the smallest percentage decrease.

Rocky Mountain District—The trend toward a lower average fuel consumption per barrel of crude oil processed was continued in the Rocky Mountain area in 1930. The total fuel consumption amounted to 22,161,000,000,000 B.t.u., the amount of crude oil processed totaled 20,929,000 bbls., and hence the average theoretical fuel requirement was 1,059,000 B.t.u. This compares with an average of 1,114,000 B.t.u. in 1929 and with 1,467,000 B.t.u. in 1925.

California—Despite a material decline in crude throughput in 1930, the California refineries used more fuel than in 1929. The average utilization per barrel of crude refined in 1930 amounted to 325,000 B.t.u. as compared with 261,000 B.t.u. in 1929. In spite of this material increase, the California district continued to have the lowest average fuel consumption of any district. The gain in average consumption in 1930 was due largely to an increased tendency to refine the crude beyond the topping stage—that is, to do more cracking and to produce more lubricating oils and special products. In common with most districts, the California refiners showed a decrease in the use of oil as fuel but an increase in the utilization of refinery gas.

Developments Reduce Fuel Consumption

Pipe Stills—The year witnessed the replacement of many shell stills by pipe stills, and the almost universal installation of pipe stills as the primary distillation equipment in the new plants. Many of the new installations, and doubtless a large number of the old ones, attain a thermal efficiency of 80 per cent as compared with less than 40 per cent for the conventional shell still. A number of refiners, who for financial and other reasons did not care to install new pipe stills, steered a middle course and constructed a system of tubes within their shell stills. Progress was made in the design and development of pipe stills operating under vacuum. These replaced the old batch vacuum stills.

Ranks Next to Pipe Stills

Heat Exchangers and Preheaters—The heat exchanger undoubtedly ranks next to the pipe still as an economizer of refinery fuel. The three principal classes of heat that were wasted at refineries previous to the days of heat exchangers were the heat in the residuals, in the overhead vapors and in the flue gases. Heat exchangers first found general application in the transfer of the heat from the residuals to the incoming crude because this was the simplest type of exchange and at the same time the one that yielded the best results. The next step was the development of vapor heat exchangers to conserve the heat in the hot vapors. Attention is now being given to saving the heat in the flue gases, but this type of heat exchange is not in very common use since the heat recovered is comparatively low and the equipment is liable to interfere with the draft.

Exhaust Steam—There is a tendency at refineries to utilize more and more exhaust steam, with a consequent saving in the amount of live steam used. This exhaust, or low-pressure steam, is used to some extent in primary distillation, to a considerable extent in rerunning, and for a variety of purposes such as in the heating of buildings.

Miscellaneous—Small but important savings of fuel may be effected at refineries in a variety of ways, such as improvements in furnace design through automatic control, improved insulation, and by more efficient practice.

FUEL USED AT REFINERIES IN THE UNITED STATES, 1929 AND 1930

	Oil, thousand bbls.*	Coal, thousand short tons	Gas, million cubic feet: Natural	Gas, million cubic feet: Refinery	Coke, thousand short tons	Purchased electricity, thousand k.w.h.	Total B.t.u. billions (approx.)	Crude run to stills, thousand bbls.	B.t.u. per bbl. of crude run
1929—									
East Coast	15,721	292	.....	16,554	96	61,734	127,974	172,434	742,000
Appalachian	1,012	902	2,886	2,942	20	33,150	37,273	33,802	1,103,000
Ind., Ill., Ky., etc.	6,613	1,091	.....	15,331	57	62,652	91,217	110,349	827,000
Oklahoma	4,037	1	15,189	5,841	.....	46,757	48,374	75,004	645,000
Kansas and Missouri	3,195	1	6,231	5,667	19	30,048	34,242	40,445	847,000
Texas, inland	1,981	.....	4,036	2,054	16	21,178	19,479	58,313	334,000
Texas Gulf Coast	10,385	.....	22,079	28,168	154	107,476	129,548	153,380	845,000
Total Texas	12,366	.....	26,115	30,222	170	128,654	149,027	211,693	704,000
Ark.-La., inland	75	.....	5,433	1,743	.....	5,263	8,595	24,777	347,000
La. Gulf Coast	2,204	.....	16,086	6,402	109	3,208	42,347	50,651	836,000
Total La.-Ark.	2,279	.....	21,519	8,145	109	8,471	50,942	75,428	675,000
Rocky Mountain	952	13	14,584	4,624	17	5,090	23,347	25,443	1,114,000
California	5,369	.....	17,205	9,401	.....	186,907	63,441	243,110	261,000
Total United States	51,544	2,300	103,729	98,727	488	573,463	630,837	987,708	639,000
Total B.t.u. (billions approx.)	309,264	59,800	108,915	138,218	14,640		630,837	.....	.....
1930—									
East Coast	14,815	269	.....	19,265	60	108,333	124,655	172,320	723,000
Appalachian	1,332	883	2,986	4,222	23	58,602	40,686	32,056	1,269,000
Ind., Ill., Ky., etc.	6,342	785	150	20,321	77	97,044	89,378	109,519	816,000
Oklahoma	3,036	.....	11,664	5,036	18	71,400	43,092	72,172	597,000
Kansas and Missouri	2,597	.....	6,943	7,270	21	46,373	33,685	38,817	868,000
Texas, inland	3,488	.....	3,670	4,133	15	61,831	24,718	60,400	409,000
Texas Gulf Coast	9,634	.....	22,122	33,319	280	132,057	135,939	154,912	878,000
Total Texas	12,072	.....	25,792	37,352	295	193,888	160,657	215,312	779,000
Ark.-La., inland	124	.....	5,353	2,184	.....	9,544	9,423	20,659	456,000
La. Gulf Coast	1,569	.....	11,935	6,332	74	41,735	33,153	40,835	812,000
Total La.-Ark.	1,693	.....	17,338	8,566	74	51,279	42,576	61,494	692,000
Rocky Mountain	863	12	10,642	3,669	12	5,780	22,161	20,929	1,059,000
California	4,206	.....	23,332	12,020	.....	194,141	66,552	204,828	325,000
Total United States	46,956	1,949	98,342	121,321	580	826,640	623,443	927,447	672,000
Total B.t.u. (billions approx.)	281,736	50,674	102,784	169,849	17,400	.....	623,443	.....	.....

*Includes acid sludge.

TWO TYPES CRUDE OILS IN CZECHOSLOVAK

(Continued from Page 22)

asphalt was obtained. The five residues showed the following characteristics:

FLASHED RESIDUES

Run No.	1	2	3	4	5
A.P.I. gravity	4.2	3.3	2.4	5.3	—0.8
Flash, open cup, °F.	220	225	215	235	225
Fire, open cup, °F.	295	280	280	300	280
Flash (Pensky), °F.	205	190	205	210	195
Furol viscosity at 122° F. (sec.)	162	156	338	55	646
Cold test	30	40	70	25	54
B.S., per cent	0.6	0.4	0.6	0.4	0.4
I.B.P., °F.	448	442	475	457	456

A.S.T.M. 100 CC. DISTILLATION

% distilled over:	Temperature, °F.				
10	568	558	565	547	550
20	634	620	626	600	617
30	684	680	669	649	672
40	710	714	687	675	703
50	730	734	710	695	720
60	740	744	722	712	730
70	749	752	753	740	760+
80	760	760	...	760	...
Endpoint	760	760	760+	760+	760+
Coke, per cent by weight	15.1	16.0	21.2	12.7	26.2
Per cent over at 572° F.	11.0	12.5	11.0	15.0	13.5

The residues from Runs Nos. 3 and 5 were processed by distilling with fire and air at 500° F. to produce asphalts which analyzed as follows:

ASPHALT FROM CRACKED RESIDUE

Run No.	3	5
Crude source	Egbell	Hodonin
Asphalt, % of crude	29	24
Sp. gr. at 77° F.	1.097	1.130
Melt. pt. (ball and ring), °F.	124	127
Melt. pt. (K.&S.), °F.	94.5	101.5
Penetration at 77° F.	85	73
Float test at 122° F. (sec.)	471	1,017
Flash, open cup, °F.	365	355
Fire, open cup, °F.	420	425
Ductility at 77° F.	above 125	above 125 cm.
Volatility at 325° F. for 5 hours (%)	0.73	1.62
Insol. in benzol, %	0.48	0.20
Color	black	black
Porcelain streak	dark brown	dark brown
Fracture	Concholdal	Concholdal
Luster	bright	bright

J. H. BRICKER KILLED

CHATHAM, Ontario, Dec. 5.—J. H. Bricker of Vancouver, B. C., president of the Capitol Oil & Natural Gas Co., was fatally injured when a car in which he was riding plunged over a 10-foot embankment near Port Moody.

CONSERVATION OFFICER DIES

MOUNT PLEASANT, Mich., Dec. 7. Francis Anderson, aged 46 years, chief oil and gas well inspector of the State Conservation Department, died suddenly from a heart attack at his home here yesterday. Surviving are his widow and two sons, Cecil and Fred.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 26)

Cranfill & Reynolds' No. 1 Snipe, 330 ft. from N and W lines of Sec. 195, Blk. 1, B.B.&C. Sur. ..... Drlg. 1,880 ft.
Texas Inland and Zingling's No. 1 Wm. Flannigan, 240 ft. from E and 165 ft. from W line of S 20 acres of SW Sec. 20, B.B.B.&C.R.R. Sur. ..... Location.

GARZA COUNTY

Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,650 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) ..... Fishing for 6⅝-in. csg.; T.D. 3,320 ft.

HOWARD COUNTY

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. .. Spudded and S.D.
Merrick & Lamb's No. 3 Chalk, 990 ft. from the N and W lines of Sec. 125, Blk. 28, W.&M.W.R.R. Sur. .... T.D. 3,292 ft.; will plug back to 1,700 ft.
L. C. Harrison et al's No. 1 L. C. Denman, 2,310 ft. from S line and 330 ft. from E line of Sec. 10, T.&P.R.R. Sur., Blk. 30 ..... Drlg. 505 ft.

IRION COUNTY

Davis et al's No. 1 Suggs, 1,560 ft. from S and 935 ft. from W Sec. 3,031, Blk. 38, H.&T.C. Sur. ..... Fishing 5,511 ft.
Ellis Flanery Corp.'s No. 1 Nutt, 1,350 ft. from N and 450 ft. from E of Sec. 694, Kheikenheim Sur. ..... Shut down 2,900 ft.
Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,194, T.T.R.R. Sur. ..... Bailing hole 6,795 ft.
Straughn & Adkins Bros.' No. 1 Lee, 1,980 ft. from W and 420 ft. from N of Sec. 739, C. Kaiser Sur. .... Drlg. 1,020 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur. ..... S.D. 1,005 ft.; temporarily abandoned.
Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. .... Rig up.

LOVING COUNTY

Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S Sec. 46, Blk. 53, T.&P. Sur. ..... S.D. 810 ft.
Slack's No. 1 Lynd, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 2, W.&N.W. Sur. ..... Drlg. 3,900 ft.
Falbre & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW Sec. 79, Blk. 33, H.&T.C. Sur. ..... S.D. 2,500 ft.
Lewis & Siegel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W Sec. 6, Blk. 56, Twp. 1, T.&P. Sur... Spudded and shut down.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... S.D. 3,385 ft.
Tennant et al's No. 1 Martin, 990 ft. from NW and SW Sec. 66, Blk. 1, W.&N.W. Sur. ..... Waiting on cement to set 2,665 ft.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 300 ft. from S cor. Sec. 132, E.L.R.R. Sur. ..... S.D. 2,860 ft.

PECOS COUNTY

Anderson's No. 1 Le Fever, 330 ft. from N and W of Sec. 78, Blk. 8, H.&G.N. Sur. ..... Shut down 400 ft.
Cardinal Oil Co.'s No. 1 J. H. Tippett ("P"), 1,980 ft. from the S line and 990 ft. from the W line of Sec. 2, D. F. Robertson Sur. ..... Shut down 675 ft.; tested at 575 ft.; bailed 3 bailers of oil.
Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur. ..... Shut down 670 ft.
Slaughter et al's No. 1 Sun Yates, 60 ft. S of Sun Oil Co.'s No. 1 Yates, Sec. 59, Blk. 1, I.&G.N. Sur. ..... Material.

REAGAN COUNTY

Carl Cromwell et al's No. 1 University, 1,320 ft. from S line and 1,320 ft. from E line of Sec. 4, University Blk. 7 ..... Spudded 55 ft.
Big Lake Oil Co.'s No. 6-C University, 1,370 ft. from S and 1,000 ft. from E Sec. 12, Blk. 2 ..... Total depth 4,810 ft.

REEVES COUNTY

Cunningham et al's No. 1 Wright, 1,320 ft. from S and W Sec. 58, Cassel's Sur. ..... Spudded and S.D.
F. McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur.... Shut down 65 ft.
James & Milton's No. 1 Patterson, 330 ft. from N and W of Sec. 21, Blk. 73 ..... Shut down 3,320 ft. (S.L.M.).
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur... S.D. 5,044 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,049 ft. from NW in J. Heil Sur. No. 519 ..... S.D. 2,700 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 39, Blk. M, G.H.&S.A. Sur. ..... Shut down 4,500 ft.; to resume drilling.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,362 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... S.D. 5,060 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... S.D. 5,041 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and S.D
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... Drlg. 3,725 ft.
Simon & Brock et al's No. 1 Cruse, 2,310 ft. from S and E Sec. 119, Blk. 97, H.&T.C. Sur. ..... S.D. 2,500 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 154, Blk. D, M-K-T Sur. ..... S.D. 3,669 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... Fishing for tools 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW cor. Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 130 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S Sec. 26, Blk. 161, G.C.&S.F. Sur.. S.D. 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W Sec. 5, G. W. Turley Sur. ..... Shut down 200 ft.

TOM GREEN COUNTY

Andrews' No. 1 Pugh, 350 ft. from N and 5,184 ft. from E, James Eldridge Sur. No. 73 ..... Shut down 453 ft.
Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. ..... S.D. 760 ft; S.O. and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 130, Dist. No. 11, S.P. Sur.... S.D. 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

VAL VERDE COUNTY

Independent Operators' No. 1 Whitehead, SE SE Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... S.D. 5,360 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 1 Sloan, 330 ft. from NW and NE Sec. 34, Blk. 5, H.&T.C. Sur. ..... Shut down 730 ft.
Alpine Oil & Dev. Co.'s No. 4 J. F. Boogher, 150 ft. from SE line and 150 ft. from the SW line of Tract 16, Sec. 11, Blk. 5, H.&T.C. Sur. ..... Rig.
Boogher's No. 1 fee, 225 ft. from SE and 2,553 ft. from NE Sec. 11, Blk. 5, H.&T.C. Sur. ..... Shut down 1,900 ft.
Atlantic O. & P. Co.'s No. 1 Archenhold, 2,310 ft. from NE line and 330 ft. from NW line of Sec. 23, H.&T.C. Sur., Blk. 5 ..... Drlg. 2,210 ft.
Bradford-Bentley's No. 1 Beatty, 330 ft. from SW and NW of Sec. 3, Blk. 34, H.&T.C. Sur. ..... Top pay 2,338 ft.; making 3 heads per day, estimated 50 bbls.; total depth 2,450 ft.
Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 34, H.&T.C. Sur. ..... Drlg. 600 ft.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW Sec. 13, Blk. 5, H.&T.C. Sur. ..... Spudded and S.D.
Gulf Production Co.'s No. 17-B Hutchings, 330 ft. from N and 1,650 ft. from W of S 370 acres of Sec. 5, Blk. F, G.M.M.B.&A. Sur. ..... Drlg. 1,186 ft.
Moran & Burkhart's No. 2 J. T. Sweatt et al, 2,310 ft. from the NE line and 1,170 ft. from the NW line of Sec. 12, Blk. 5, H.&T.C. Sur. ..... Drlg. 600 ft.
Moran & Miles' No. 1 Boogher, 3,603 ft. from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. ..... S.D. 715 ft.
Massie-Sturm's No. 1 Green, 330 ft. from NW and SW Sec. 4, Blk. 34, H.&T.C. Sur. ..... Location.
R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,533 ft. from SW Sec. 1, J. Howe Sur. ..... Drlg. 530 ft.
Prairie Oil & Gas Co.'s No. 2 Edmonson, 330 ft. from NW and SW of Sec. 23, Blk. 5, H.&T.C. Sur. ..... Rig.
Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. ..... S.D. 3,602 ft.
Paul Ryan et al's No. 1 J. S. Reynolds, 4,110 ft. from NE line and 150 ft. from NW line, Sec. 12, Blk. 5, H.&T.C. Sur. ..... Shut down 2,157 ft.; estimated 2,000,000 ft. of gas.
Sudderth & Carey's No. 1 J. H. Boogher et al, 150 ft. from SW and SE lines of Lot 24, Sec. 11, Blk. 5, H.&T.C. Sur. ..... Drlg. 115 ft.
Stanolind Oil & Gas Co.'s No. 1 Brown, 330 ft. from NW and SW Sec. 26, Blk. B-29 ..... Drlg. 2,497 ft.
Shipley et al's No. 1 Monroe, 330 ft. SE SW Sec. 3, Blk. 1 ..... Swabbed 50 bbls. Nov. 30; total depth 4,666 ft.
White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. ..... S.D. 755 ft.

WINKLER COUNTY

Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor. Sec. 2, Blk. B-5 ..... S.D. 4,640 ft.
Richardson's No. 1 Sealy, 330 ft. from S and W of Sec. 92, Blk. A, G.M.M.B.&A. Sur. ..... Spudded and shut down.
Siel Richardson's No. 1 S. M. Halley, 330 ft. from the S line and 1,650 ft. from the E line, Sec. 25, School Blk. B-12 ..... Moving in machine.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 26)

Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... S.D. 2,619 ft.
Nipper et al's No. 1 Morse, 330 ft. from N and E, Sec. 1, Blk. 26, I.&G.N. Sur. ..... S.D. 2,365 ft.
Prairie O. & G. Co.'s No. 1 Morse, 417 ft. from N and 453 ft. from E, Sec. 4, Blk. 26, H.&G.N. Sur. ..... Drlg. 2,045 ft.
Pulse-Shell Pet. Corp.'s No. 1 Wright, 330 ft. from S and W of Sec. 13, Blk. 3, I.&G.N. Sur. ..... S.D. 2,643 ft.
Saunders et al's No. 2 Sullivan, 822 ft. from W and 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. ..... Will plug back to 3,275 ft. and shoot.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur. ..... Drlg. 1,490 ft.
Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.B.&S.F. Sur. ..... Location.
Quicksand Oil Co.'s No. 1 Chapman, 250 ft. from N and E, Sec. 69, Blk. 25, H.&G.N. Sur. ..... Drlg. 1,915 ft.
Vulcan Corp.'s No. 1 Carpenter, 330 ft. from S and E, Sec. 25, Blk. 25, H.&G.N. Sur. ..... Drlg. 2,245 ft; gas at 2,065, 2,135 and 2,165 ft.

HUTCHINSON COUNTY

Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur. ..... Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. .. S.D. 450 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. ..... S.D. 3,064 ft; show oil and gas 2,996-97 ft.
Smith & McDaniel et al's No. 4 Pitcher, 990 ft. from S and 330 ft. from W, Sec. 19, Blk. M-21, Sur. .... Drlg. 2,870 ft.
Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ..... Top pay 3,070-95 ft; 500 ft. oil in hole; S.D. 3,115 ft.
Timms-Deatch's No. 4 Moore, 320 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. ..... Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... T.D. 5,003 ft.

MOORE COUNTY

Gulf Prod. Co.'s No. 1 Burnett, 330 ft. from N and W, Sec. 356, Blk. 44, H.&T.C. Sur. ..... Drlg. 3,200 ft; show gas 2,870 ft; 5,000,000 ft. gas 2,980 ft.
Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. ..... Rig up.
Laurence et al's No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. ..... Cellar.
Magnolia Pet. Co.'s No. 1 Nield, 330 ft. from S and E of N½, Sec. 361, Blk. 44, H.&T.C. Sur. ..... Rigging up rotary.
Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. ..... Rig on ground.
Texas Interstate P. L. Co.'s No. 1-23 Thompson, C N½ NE, Sec. 23, Blk. 44, H.&T.C. Sur. ..... Location.
Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. ..... Location.
Texhoma Nat. Gas Co.'s No. 2 Coon, C, Sec. 151, Blk. 44, Sur. ..... Standardizing 2,439 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. ..... S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. ..... S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. ..... S.D. 2,945 ft.

PARMER COUNTY

Magnolia Pet. Co.'s No. 1 Wilson, 330 ft. from N and W, SE, Sec. 73, H. Kelly Sur. ..... Drlg. 1,950 ft.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. ..... S.D. 2,472 ft.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. ..... S.D. 2,690 ft.

WHEELER COUNTY

Clarity et al's No. 1 Porter, 330 ft. S and W, SE, Sec. 3, Blk. A-9, H.&G.N. Sur. ..... S.D. for 6-in. csg. 2,150 ft.
Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E of E½ of Sec. 32, Blk. 24, H.&G.N. Sur. ..... Estimated 80,000,000 ft. gas; T.D. 2,263 ft.

Of Interest to Sales Departments

Expanded Programs of West Coast Marketers Promise Better Times

LOS ANGELES, Calif., Dec. 7.—After several months of endeavor to ascertain who could give away the most gasoline, Pacific Coast refiners have about concluded to cease further philanthropic work and make a little profit for their stockholders. A concerted attempt has been started to correct the marketing situation and reduce crude oil production to economic requirements. Retail gasoline prices were fairly well stabilized in the San Francisco Bay region about two weeks ago when resellers removed cut-rate signs at the insistence of independent refiners and adopted a uniform scale slightly below the standardized price of major refiners. A similar movement was started in the southern California territory about 10 days ago and all but a few resellers increased the retail service station price of gasoline from 10 cents per gallon to 12½ cents tax paid. With one exception, major refiners have been adhering since the close of the gasoline war to a base price of 16 cents per gallon tax paid in Los Angeles territory.

It is the present intention of independent refiners ultimately to stabilize the price of their product approximately 2 cents below that maintained by major companies and if this objective can be reached the California oil industry will be well on the road to better times. A recent economic survey indicated the necessity of reducing crude oil production in California to 456,700 bbls. per day during the first six months of 1932 and it appears likely that the general committee on state-wide curtailment will

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LOS ANGELES THE BASE FOR VACUUM OIL FLEET

LOS ANGELES, Calif., Dec. 7.—Los Angeles harbor will be Pacific Coast headquarters for the 16 ships of the Vacuum Oil Co. Following the merger of that concern with the Standard Oil Co. of New York to form the Socony-Vacuum Corp. the boats of the two organizations have been brought into a newly incorporated company, the Standard-Vacuum Transportation Co. of New York.

As agents for the Standard Oil Co. of New York, the General Petroleum Corp.'s marine department will have jurisdiction over the former Vacuum Oil fleet. Five of the Vacuum ships have been carrying gasoline to Australia and New Zealand from San Francisco, and several years ago carried it from this port.

Change of administration headquarters probably will result in each of the 16 tankers of Vacuum calling here, shipping men say.

F. S. Fales, president of the Standard-Vacuum Co., accompanied by Charles F. Meyer, chairman of the executive committee, left for San Francisco, where it is expected arrangements will be made for General Petroleum to take the Vacuum agency.

CANADIAN GASOLINE TAXES

CHATHAM, Ontario, Dec. 5.—Official figures indicate that among the western provinces Alberta has the largest revenue from gasoline tax, $1,931,602 for the last fiscal year. British Columbia approximates $1,800,000; Saskatchewan about the same figure after rebates to farmers and others; and Manitoba $1,176,000 for its last fiscal year. The uniform rate is 5 cents per gallon. British Columbia may increase its tax to 7 cents.

PROGRESS REPORTED IN FIGHT TO ERADICATE GASOLINE RACKETEERS

By Frank V. Martinek
Standard Oil Co. of Indiana*

So extensive has gasoline racketeering become in this country, and so financially successful, that not only the gasoline tax revenues in the states and the good will of the public, but also the stability of the American petroleum industry are threatened.

Our investigations have proven the gasoline racketeer does not stop at merely cheating the public and the state, but attempts to cheat the company that is selling to him. You probably have heard how we took the initiative in Illinois in August. We created the "Illinois Gasoline Tax Evasion Committee." Some of the conditions unearthed are almost unbelievable.

We find the racketeer resorting to every known method of evasion. Among these are the following:

1. Gasoline tax evaders transport gasoline across state lines, and on being questioned as to the disposition of gasoline billed to them produce receipts showing distribution to the adjoining state. Lack of a check-up between states makes this practice possible.

2. They set up paint factories or other industrial plants in order to show records of gasoline sold for tax-free purposes when it is actually sold to the trade, and the tax is collected.

3. They fail to report gasoline received or make false reports to the state authorities as to the actual quantity received.

4. They operate under the names of dummy companies which receive and market motor fuel without reporting it for tax purposes. As investigation seems imminent these companies go out of business, but the actual business is carried on continuously by transferring it to new dummies.

5. Where there is no tax on natural gasoline, naphtha, kerosene, and furnace oil, they purchase these products, blend them into a product which they sell to the public as motor fuel, and pocket the tax they collect from the public. Instances have been discovered in which such a product, colored with dye to the proper red, has been sold as high-test, antiknock fuel.

6. They raise the gallonage figures shown on affidavits secured in connection with the tax-exempt sales, and pocket the tax on the difference between the amount actually sold to farmers and the amount reported sold in affadavits furnished to the authorities.

7. They juggle shipments and reports; for example, by diverting a shipment billed to them to some other company, usually a very evanescent concern, which is no longer in existence by the time the tax authorities begin to hunt it in checking up on the shipment.

8. They corrupt public officials by bribes or by taking them into secret partnerships, induce them to sample improperly or deliberately to falsify their reports, and secure their protection against prosecution.

9. They conspire with railroad employes and others to report shipments improperly.

10. They conspire with unscrupulous refiners to receive shipments which have

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*Annual meeting Nebraska Petroleum Marketers, Inc.

PROTEST FILED AGAINST STATE'S BUYING METHOD

MINNEAPOLIS, Minn., Dec. 7.—The method of buying gasoline employed by the State of Minnesota is the subject of a protest lodged by the Northwest Petroleum Association, which has headquarters here. A letter sent to Governor Olson by the association says in part:

"The attention of this association has been called to a conference held at your office on November 19. It is reported that a committee representing 113 co-operative oil companies requested that such concerns be favored with the gasoline business of the State of Minnesota. According to newspaper reports you gave two assurances: (1) That you would instruct all appointive state officers to have their departments purchase gasoline from the co-operative oil companies rather than from 'the large independent concerns'; and (2) that you would suggest similar action to the elective state officers.

"It is not our purpose to condemn the State for endeavoring to divide its purchases of gasoline equitably among all taxpayers engaged in the business of selling such product. However, we feel that the State is just as unfair in giving all of its gasoline business, or a major portion thereof, to any one group as it would be in giving this business to another group or to any one concern. We further feel that the purchases of all petroleum products, rather than the purchases of gasoline alone, should be equitably distributed. It is not amiss to say that the group represented by this organization has received only a very slight portion of the State's gasoline business in past years."

COLONIAL BEACON BUYS SERVICE STATION CHAIN

NEW YORK, Dec. 8.—The Colonial Beacon Oil Co., New York and New England subsidiary of the Standard Oil Co. of New Jersey, has acquired the chain of 55 service stations formerly operated by Kesbec Sales Co., Inc. The Kesbec chain, located in the metropolitan New York area, has distributed Socony gasoline and other products of the Standard Oil Co. of New York.

The acquisition will add substantially to Colonial Beacon's gallonage in New York City and vicinity. Colonial Beacon stations market "Esso," the premium fuel of the parent New Jersey company.

THIRD-GRADE GAS TESTED

DALLAS, Tex., Dec. 7.—The committee on mileage performance of the Dallas Automotive Federation has reported the results of tests in which five different brands of third-grade gasoline were compared with the standard grade of the same brands. First, one gallon of the standard brands was used to run a car as far as possible. Each carried the car to within 100 yards of 18.1 miles. The car was then tested with third-grade gasoline. Results as reported are: Brand A, 3 miles short of the 18.1 miles; B, 4 miles short; C, only one-fourth mile, or 1.3 per cent. short; D, 6 miles, or 33 per cent short; E, 3.5 miles short of the 18.1 miles.

SHELL ATLANTA HEADQUARTERS

The Eastern Petroleum Corp. will establish district headquarters in Atlanta on December 13.

DERBY WINS ITS ACTION AGAINST OIL INSPECTOR

DENVER, Colo., Dec. 7.—A decision in favor of the Derby Oil Co. of Kansas was handed down by Judge E. V. Holland in the Denver District Court in injunction proceedings inaugurated last October by that company to restain James Duce, state oil inspector, and other state and county officials from interfering with its sale of colored gasoline in Colorado and to require the inspector to issue a permit to the company. The court ruled that the act of the legislature last spring prohibiting the sale of artifically colored gasoline in the State, except when the coloring is used to identify special qualities, and then only under a license issued by the inspector, was unconstitutional. The ruling was based on the ground that the legislature had not provided the state oil inspector with any method to determine which products contained the required qualities. The court declared that even if the act was constitutional, the Derby Oil Co. or its agents are entitled to a permit to sell "red" gasoline because the company has established the fact that its product contains high antiknock qualities.

The Derby company entered court last October with an application for an injunction restraining the state inspector from interfering with its business in the sale of red gasoline following the issuance of an order by Inspector Duce forbidding the sale of colored products without a permit. Only one permit for the use of colors in gasoline has been issued and the Derby company was denied a permit after submitting formulas to show that its product had the necessary quality and that "red" coloring is a symbol of this quality established by the federal Government to designate this quality to the public. A temporary injunction was granted and the inspector was ordered to issue the permit. An appeal to the Supreme Court is to be taken.

CONSTITUTIONALITY OF TAX LAW TO BE TESTED

INDIANAPOLIS, Ind., Dec. 7.—The Indiana Petroleum Association, holding its annual meeting here, directed the newly elected president, W. F. Small, to appoint a committee to test the constitutionality of the Indiana chain store license law as it applies to gasoline filling stations.

Decision to instigate suits in Indiana courts was made at the closing session of the convention. The United States Supreme Court recently refused to reconsider its decision upholding the validity of the Indiana law as it applies generally.

Attorneys for some oil concerns, among them John Oscar Dorwin, representing the Indiana Refining Co., said a thorough study of the law had revealed to them a possibility of eliminating the gasoline filling station from its provisions on the grounds of unconstitutionality.

Responsibility for elimination of the gasoline "bootlegger" who cheats some states of taxes by importing from another state where a lower rate, or none at all, is imposed, was placed at the door of "legitimate dealers" by Floyd E. Williamson, auditor of state, in an address before the convention.

Urging adoption of a uniform gasoline tax by all states of the union as one means of curbing illicit gasoline sales, Mr. Williamson at the same time told the delegates that when "all legitimate dealers refuse to patronize the gasoline bootlegger or a refiner who knowingly sells to a bootlegger," much will have been done to put an end to the practice.

Braun

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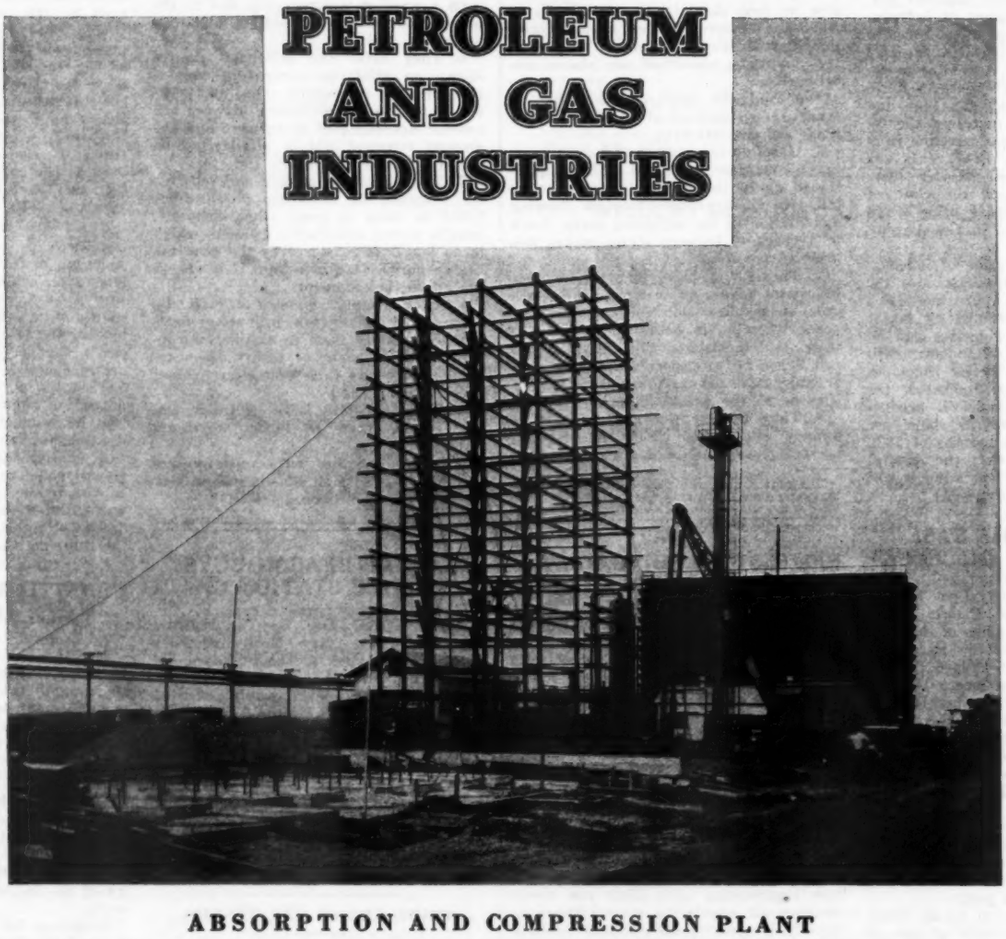

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Brief Items for Petroleum Refiners

Trinidad Leaseholds Chairman Suggests a Preferential Tariff

NEW YORK, Dec. 7.—Preferential treatment for producers and refiners operating petroleum properties in British dominions and colonies, and the filling of a larger part of the United Kingdom's annual requirements with oil from these sources, is suggested by F. R. Phillips, M.C., chairman of the Trinidad Leaseholds, Ltd., in his annual report submitted at a meeting in London.

The United Kingdom imports a large percentage of her petroleum requirements, said Mr. Phillips, but there are sources of supply in the dominions and colonies, owned by British capital and worked by British labor, which would develop into assets of great value to Great Britain if fostered. Petroleum is imported into the United Kingdom duty free.

For the sake of mutual prosperity, he suggested, the home government should extend to these dominions and colonies a measure of preference on oil imports into the United Kingdom. Trinidad, the location of the producing and refining operations of his company, Mr. Phillips pointed out, for many years has extended the United Kingdom a substantial preference for her manufactured goods. Trinidad, he added, is the largest producer of crude petroleum within the British Empire and as such "should regard the mother country as the natural market for her products."

There has been a strong agitation in political circles in Great Britain for preferential tariff treatment which would make more profitable the operation of

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RUMANIAN AND GROUP 3 SHIPMENTS TO DETROIT COST ABOUT THE SAME

By A. E. Mockler

NEW YORK, Dec. 7.—Shipments of Rumanian gasoline into Detroit by tanker from Constanza to North Atlantic United States ports, and thence to Detroit by tank car can be made under present conditions at little more transportation cost than is involved in tank car shipment of gasoline from Group 3 to Detroit, according to data compiled here.

Shipment of two cargoes of Rumanian gasoline to ports "north of Hatteras," with scheduled transshipment to Detroit by tank car, has aroused discussion as to the netback of the Rumanian seller.

The initial cargo of Rumanian gasoline reaching this area came in on the Italian tanker Arcola, which arrived at Baltimore with approximately 2,400,000 gallons of gasoline, understood to be consigned to the Sunny Side Oil Co. of Detroit. That company recently received a cargo from the same source, via Montreal and the St. Lawrence waterway system.

Group 3 gasoline, 64-66 gravity, at 4¾ cents per gallon, would "lay down" in Detroit at 8.44 cents per gallon, the tank car rate on such shipments being 56 cents per 100 pounds, or roughly 3.696 cents per gallon.

Gasoline shipped in tank cars from Baltimore to Detroit would carry a rail freight rate of 35 cents per 100 pounds, or approximately 2.31 cents per gallon. The rate from Philadelphia (where the second cargo of Rumanian gasoline, on the tanker Ranja, supposedly is destined) is but a little over the Baltimore rate, figuring out 2.376 cents per gallon.

Rumanian gasoline of 730 gravity at last reports was quoted at approximately 4.9 cents per gallon, f.o.b. Constanza. The tanker freight rate on the shipment arrived at Baltimore was reported at approximately 1.35 cents per gallon, which, added to the 2.31 cents per gallon tank car rail freight from Baltimore to Detroit, would make a total shipping cost of 3.66 cents per gallon and a laid-down price of 8.56 cents per gallon at Detroit, assuming that the current market price at Constanza was paid on the shipment. The foregoing figures do not take in whatever charges might have accrued for insurance on the gasoline in transit, or handling charges incurred in loading the tanker at Constanza and discharging at Baltimore, where the Seaboard Terminal Co. is reported handling the Rumanian oil.

Thus, assuming the correctness of the figures relating to the tanker movement of the Rumanian product, gasoline of 730 gravity from that country can be shipped into Detroit at a laid-down cost of little over 8.56 cents per gallon, as contrasted with a quotation of 8.44 cents per gallon for Group 3 gasoline of 64-66 gravity delivered at the same point.

The Rumanian sellers and the American buyer of Rumanian gasoline benefit from the current depressed condition of the tanker charter market. The Italian

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PREMIUMS FOR CRUDE OF SALT CREEK FIELD

The Producers & Refiners Corp., a subsidiary of the Prairie Oil & Gas Co. last week was the highest bidder for the royalty crude oil in the Salt Creek Field of Wyoming. The corporation bid 22½ cents per barrel above the posted price in Kansas, Oklahoma and Wyoming for three years but made no bids for one or five-year periods.

The corporation, if awarded the oil by the Government, expects to transport the crude by pipe line to its refinery located at Parco, Wyo. This refinery, which has a capacity of 10,000 bbls. daily, for some time has been operated part capacity with crude oil from the Lost Soldier Field in Wyoming. The parent company has a pipe line connecting the field with the refinery. The Prairie interests also have small production in the Salt Creek Field. The royalty oil involved in the bid amounts to approximately 3,000 bbls. of high gravity crude oil daily.

The White Eagle Oil Corp. and The Texas Company, both with refineries at Casper, Wyo., which is about 40 miles from the Salt Creek Field, and the Midwest Refining Co. have also submitted bids for the royalty crude. The Midwest has a large refinery at Casper.

The White Eagle-Texas bid was 11¾ cents a barrel above the highest posted field price in Kansas or Oklahoma for one year; 13¾ cents above the posted price for three years, and 16¾ cents above the posted price for five years.

The Midwest Refining Co., a Standard Oil Co. of Indiana subsidiary, bid the highest posted price in Kansas and Oklahoma, but no premium. On the face of the bids, the Producers & Refiners Corp. apparently submitted the best offer. The bids were referred to the Geological Survey.

The White Eagle-Texas bid was submitted by James P. Kem, Kansas City, of the White Eagle Corp., who instituted the fight which caused the contract negotiated by Albert B. Fall, then Secretary of the Interior, with the Sinclair Crude Oil Purchasing Co. to be canceled. The attorney general held that a five-year contract for the royalty oil was invalid because a five-year renewal option was attached. The latter was held to be beyond the authority of the Interior Department.

KENTUCKY NOW REFINING MUCH OF ITS OWN CRUDE

LOUISVILLE, Ky., Dec. 5.—Kentucky crude oil is now being refined within the state to a greater extent than ever before, relieving to some extent the marketing problem that has confronted the trade for two years. While Louisville refineries are reserving most of the western production, smaller refineries have been established in the lower end of the field within the past year.

Refineries are now in operation in Horse Cave, Hart County; Glasgow, Barren County, and Bowling Green in Warren County, the last being the most recently completed, and a refinery is in process of construction in Somerset, Pulaski County. At various points within the producing fields, casinghead gasoline plants have operated successfully. In the eastern Kentucky fields two refineries near Ashland are reported to be taking care of the entire present output of the Big Sandy Fields.

In the early days of the industry nearly all Kentucky crude oil was shipped outside the state for refining, pipe lines extending to West Virginia and to Lawrenceville, Ill. Four Louisville refineries now buy crude oil in the western Kentucky fields, where conditions are looking up since establishment of 90 cents per barrel as the top price. Around 6,000 bbls. daily are now reaching storage in the Owensboro area, with probably an equal amount reaching markets in the lower counties.

CLYDE GLOSSER JOINS ARONOW

Clyde Glosser, formerly sales manager in Montana for the Continental Supply Co., has been made sales manager for the Aronow refinery at Kalispell, Mont. The Aronow plant operates on crude from the Kevin-Sunburst Field and supplies a local trade area.

RIO GRANDE OIL MAY AVOID RECEIVERSHIP

LOS ANGELES, Calif., Dec. 7.—Indications the Rio Grande Oil Co. of Texas may escape threatened receivership were seen in the action of United States District Judge Harry A. Hollzer, who continued the receivership hearing to December 14.

The court granted permission to Murray Shewett, New York broker, to intervene in the action when it was informed by Mr. Shewett's representative, Robert M. Clarke, that Mr. Shewett recently obtained a judgment for $2,137,500 against the Rio Grande company. The judgment, Mr. Clarke said, has not been signed or entered. Mr. Clarke protested against the appointment of a receiver as expensive and unnecessary.

Milton T. Farmer, of San Francisco, representing the Barnsdall Oil Co. of California and the Interstate Equities Corp., which petitioned for the receivership as creditors, asked for the continuance.

"There is an excellent prospect," Mr. Farmer said, "of the entire matter being adjusted out of court to the satisfaction of all parties."

BUY OSAGE CRUDE OIL

Montana purchasers of crude oil again have appeared in the Osage Field bidding for a limited quantity of crude. The bulk of the Osage production has been shut in or stored for the past 90 days. Some distress oil has been purchased for 70 cents per barrel, but the older and established producers have been holding for better prices. Independent refiners supplying the local trade have been paying $1 per barrel for crude from the older part of the field and $1.05 for the flush production which carries a higher gasoline content.

SOUTHPORT REFINERY IS TAKEN OVER BY CHAPMAN

NEW ORLEANS, La., Dec. 7.—The United States Refining Co. of Louisiana, recently organized by E. L. Chapman of Fort Worth, Tex., will operate the Southport refining plant previously purchased by Mr. Chapman from the Southport Refining & Export Co. of New Orleans. This 4,000-bbl. skimming plant, which had been idle several years, was taken over last summer by the Southport company, which remodeled and operated it for several months.

Mr. Chapman, it is reported, plans to obtain crude by tank car from the Overton district and to get part of his crude supply by barges from the Urania district of Arkansas.

STATE CO-OPERATION SOUGHT

ST. PAUL, Minn., Dec. 7.—A conference of the gasoline tax administrators of Iowa, Minnesota, North Dakota and Wisconsin "to consider co-operative action for better control of interstate gasoline sales" has been proposed by George H. Griffith, chief of Division of Oil Inspection in Minnesota, to the Iowa state treasurer, R. E. Johnson. Mr. Griffith proposes to furnish the Iowa officials with a list of Minnesota oil dealers who sell gasoline in Iowa, with monthly statements of such dealers showing sales made in Iowa either direct or by tank wagons. Reciprocal information is requested.

INSTALLING RECOVERY PLANT

The Oriental Oil Co. is installing a gas recovery plant at its Dallas refinery to operate in connection with a cracking unit which was recently constructed by the Engineering Service Co. of Dallas.

FIRE AT ROOT REFINERY

SHREVEPORT, La., Dec. 5.—The Root Refining Co.'s plant at El Dorado, Ark., suffered a loss by fire on the morning of December 1 caused by an explosion in the furnace of one of the units. Burning oil sprayed over the central plant and threatened serious damage to the entire refinery, but quick action with chemicals and steam fire fighting apparatus saved the plant. Officials of the company at the Shreveport office state that no estimate has been made of the loss, but that operations will be suspended for about 15 days until repairs can be made. The plant had a daily average run to the stills of 4,000 bbls.

BEACON REFINERY BURNS

The Beacon Oil & Refining Co. refinery, located 3 miles north of Henderson, Tex., was practically destroyed by fire Sunday morning. The fire was discovered in time for all employes to vacate the premises before several small gasoline tanks exploded. A large crew of men were at work Sunday clearing debris and the plant will be put back in operation as soon as possible. The Beacon plant was one of the first to be built in the East Texas Field last year. It was a topping plant using shell stills for distillation.

Manufacture of Natural Gasoline

Elect Burket Head Of Gasoline Supply Men's Association

A. W. Burket of the Jackson Engineering Co., Tulsa, was elected president of the Natural Gasoline Supply Men's Association at a meeting held last week at the Tulsa headquarters of the Natural Gasoline Association of America. Mr. Burket succeeds M. H. Kotzebue, who has served as president of the association over the past year.

A. W. Burket

W. D. Moorer of the Moorlane Co. was elected first vice president; A. V. B. Candler, National Supply Co., second vice president, and E. P. Triphaus, Taylor Instrument Co., treasurer. Ray E. Miller, secretary of the Natural Gasoline Association of America, continues as secretary.

The report of Mr. Miller showed that the supply men's association was in excellent condition and justified a reduction in annual dues from $75 to $60 a year. The reduction applies to present as well as new members of the association. The association is preparing to co-operate with the Natural Gasoline Association of America in handling entertainment features of the annual convention which will be held next spring.

Mr. Burket appointed J. H. Satterwhite of Westcott & Greis, Inc., chairman of the association's membership committee. Other members of the committee will be announced later.

RESUME PLANT OPERATIONS

The Preston Oil Co. of Columbus, Ohio, has resumed operations at four of its plants located in Ohio which were shut down during the summer months. The four plants and their rated daily capacity in gallons are as follows: Burlington Township, Licking County, 5,000 gallons; Weller Township, Richland County, 12,000 gallons; Berne Township, Fairfield County, 10,000 gallons, and Stock Township, Noble County, 3,000 gallons.

The company has five other plants in Ohio which are not operating at this time. Their location and capacities are as follows: Falls Gore Township, Hocking County, 2,000 gallons; Rome Township, 5,000 gallons; Sutton Township, Meigs County, 5,000 gallons; Wayne Township, Muskingum County, 5,000 gallons, and York Township, Medina County, 5,000 gallons.

OCTOBER OUTPUT SUBSTANTIALLY UNDER SAME PERIOD LAST YEAR

The daily average production of natural gasoline in October, 1931, amounted to 4,530,000 gallons, which though considerably below the output of a year ago, represents a gain of 5 per cent over September and the first monthly increase since March, 1931. Practically all of the major districts shared in the increase in output in October. The gain in output of certain areas was due to increased demand for gas incident to the approach of colder weather, in Oklahoma to the lifting of the shutdown. Despite the gain in output in October, stocks of natural gasoline continued to reflect the material drop in output of the previous six months and fell from 25,808,000 gallons on hand October 1 to 21,993,000 gallons on hand October 31.

In the Appalachian area the arrival of colder weather is partially responsible for an increase in production from 4,400,000 gallons in September to 5,900,000 gallons in October. A number of the plants in that area are of the compression type and production always increases with cold weather. However, the October total was 1,000,000 gallons less than the total for October of last year indicating the output in that area may be less than last year throughout the coming winter.

The situation of the Indiana, Kentucky and Illinois area is largely the same as in the Appalachian. October production was greater than September but less than October of last year.

In Oklahoma, natural gasoline production increased from 25,600,000 gallons in September to 31,300,000 gallons in October. But the October total is 15,300,000 gallons or more than 30 per cent less than that of October, 1930. In this connection, it is worthy of special note that the natural gasoline production in Greater Seminole during October was almost 50 per cent less than the total for October of last year. That area has been and still is one of the great natural gasoline producing areas of the oil industry. However, it has been definitely on the decline for some time and it now appears that this trend will continue through 1932. The same situation to a lesser extent applies to all the other older fields of the State. Even in the case of Oklahoma City, the October production was less than in October of last year. Oklahoma City, however, with any increase in the allowable production should show a corresponding increase in natural gasoline output.

Texas production has declined but not as much as Oklahoma. The October report shows that the output was less in all areas than in October of last year. The decline in West Central reflects an actual decline in available casinghead gas. In the case of the Panhandle the decline is largely due to the curtailment of allowable crude oil production.

In California, the largest producer of natural gasoline, the production trend is similar to that of the other large producing states—Texas and Oklahoma. Part of the decline is due to the steady reduction in the gas supplies of the older fields and the curtailed operations of the newer fields. The smaller states all show declines from last year except the Rocky Mountain area where production has increased. The accompanying table is based on the monthly report of the Bureau of Mines.

It appears certain that 1931 production will be around 200,000,000 gallons less than 1930. For the first 10 months of 1931 the decline when compared with the same period last year totaled 121,000,000 gallons. The following table gives the 10-month production by areas for the several manufacturing districts:

	Production (thousands of gallons) Jan.-Sept., 1930	Jan.-Sept., 1931
Appalachian	65,300	59,900
Ill., Ky., etc.	9,200	8,000
Oklahoma	449,100	369,100
Oklahoma City	24,900	36,300
Osage County	56,900	58,500
Seminole, etc.	202,900	136,700
Rest of State	164,400	142,600
Kansas	23,900	24,900
Texas	359,300	359,900
Panhandle	183,300	176,400
North Texas	32,500	31,100
West Central	110,400	101,300
Rest of State	33,100	51,100
Louisiana	55,000	44,300
Arkansas	23,900	22,100
Rocky Mountain	39,200	57,100
California	612,900	569,300
Long Beach	129,800	17,900
Ventura Avenue	45,000	142,500
Seal Beach	21,500	114,900
Huntington Beach	25,400	103,600
Santa Fe Springs	160,500	45,600
Rest of State	229,200	144,800
Total	1,636,900	1,515,600

(Thousands of gallons)

	Natural gasoline: Production Oct., 1931	Sept., 1931	Oct., 1930	Jan.-Oct., 1931	Stocks end of month Oct., 1931	Sept., 1931	Blended motor fuel, Oct., 1931: Natural gasoline used	Naphtha or other oils used	Stock end of month
Appalachian	5,900	4,400	6,900	59,900	1,957	2,358	69	81	165
Ill., Ky., Ind.	900	700	1,000	8,000	243	263	..	..	..
Oklahoma	31,300	25,600	46,600	369,100	5,468	7,385	62	112	76
Oklahoma City	3,200	600	4,200	36,300	737	338	..	..	..
Osage County	4,900	4,900	6,300	53,500	980	3,240	..	..	4
Seminole	9,800	7,200	18,300	136,700	1,510	1,479	6	3	7
Rest of State	13,400	12,900	17,800	142,600	2,241	3,328	56	109	65
Kansas	2,400	2,300	2,900	24,900	422	586	22	2	7
Texas	34,900	32,700	43,600	359,900	5,460	6,093	117	200	46
Panhandle	18,800	16,500	21,700	176,400	3,025	2,852	83	30	6
North Texas	2,600	3,000	3,600	31,100	745	912	16	8	13
West Central	8,600	8,300	12,800	101,300	1,112	1,506	18	112	27
Rest of State	4,900	4,900	5,500	51,100	578	823	..	..	..
Louisiana	4,600	4,600	5,800	44,300	868	868	32	14	2
Arkansas	2,000	1,900	2,700	23,100	161	235	193	189	54
Rocky Mountains	6,100	6,100	5,100	57,100	608	577	..	..	..
California	52,400	50,300	67,100	569,300	6,806	7,443	..	..	..
Huntington Beach	1,700	1,600	2,500	17,900	....	....	..	..	..
Kettleman Hills	12,400	11,600	13,400	142,500	....	....	..	..	..
Long Beach	10,000	9,300	14,800	114,900	....	....	..	..	..
Santa Fe Springs	9,600	9,400	15,800	103,600	....	....	..	..	..
Ventura Avenue	4,400	4,300	5,000	45,600	....	....	..	..	..
Rest of State	14,300	13,600	15,600	144,800	....	....	..	..	..
Total	140,500	128,600	181,700	1,515,600	21,993	25,808	495	598	350
Daily average	4,530	4,290	5,860	4,990	....	....	..	..	..
Total (thousands of barrels)	3,345	3,062	4,326	36,035	361	614	12	14	8
Daily average	108	102	140	119	....	....	..	..	..

Prepared under the supervision of G. R. Hopkins, Petroleum Economics Division. E. B. Swanson, chief economist, Petroleum Economics Division, December 2, 1931.

California Draws on Storage to Meet Its Market Requirements

Daily average production of natural gasoline in California during October was 40,256 bbls. and stock transfer receipts were 624 bbls., so that the total supply amounted to 40,880 bbls. per day. Daily average refinery blends, including 6 bbls. per day blended at natural gasoline plants, amounted to 29,270 bbls. and 5,174 bbls. per day were run to stills with crude.

Kettleman Hills continues to lead all other areas in the production of natural gasoline although the output of the plants is under the peak of the year. Natural gasoline manufacturers operating a half dozen large plants in that area ran 10,152,922,000 feet of gas during October and obtained 12,394,526 gallons, indicating a recovery of slightly less than 1.2 gallons of natural gasoline per 1,000 feet of gas.

Long Beach was the second area in the State with 9,983,314 gallons of natural gasoline from 4,773,338,000 feet of gas. The gasoline recovery in that field is now in excess of 2 gallons per 1,000 feet.

Long Beach is closely followed by Santa Fe Springs Field where the October production totaled 9,662,557 gallons although 40 per cent more casinghead gas was processed. In the Ventura Avenue Field, the casinghead gas is averaging less than a gallon per 1,000 feet. The richest gas in the State is found in the Huntington Beach Field where 527,394,000 feet of gas produced 1,677,369 gallons of natural gasoline. The Midway Field averaged approximately 2 gallons per 1,000 feet with 3,184,805 gallons of natural gasoline from 1,696,972,000 feet of gas.

The constantly decreasing importance of gasoline manufactured by the compression method is indicated in the data which show that out of a total production for the month of 52,413,462 gallons only 188,617 gallons were produced by that method. A few years ago the bulk of the natural gasoline in California was produced by the compression platns.

During the month, 146,169 bbls. of natural gasoline were shipped to the Gulf Coast where it came in direct competition with natural gasoline from the Mid-Continent area. A total of 244,861 bbls. was shipped to foreign buyers in the Atlantic area and 6,042 bbls. in the Pacific area.

PRODUCTION BY FIELDS

	Gas treated (thousand cubic ft.)	Natural gasoline produced (gallons)
Fullerton and Whittier	665,447	1,606,662
Midway	1,696,972	3,184,805
Huntington Beach	527,394	1,677,369
Kettleman Hills	10,152,922	12,394,526
Long Beach	4,773,338	9,983,314
Richfield	445,215	577,713
Santa Fe Springs	6,483,589	9,662,557
Seal Beach	582,677	1,020,736
Ventura Avenue	4,647,527	4,392,439
All other fields	5,201,943	7,913,354
Total	35,177,024	52,413,462

PRODUCTION BY METHODS

Type of plant—	Gas treated (M.C.F.)	Natural gasoline produced (gallons)
Oil absorption	35,011,122	52,224,645
Compressor	165,902	188,817
Total	35,177,024	52,413,462

Finished gasoline produced at plants, 176 bbls.

Stocks—	Gallons	Barrels
Natural gasoline held by plant operators	6,805,959	162,047
Natural gasoline held by refineries	68,809,902	1,638,331
Total	75,615,861	1,800,378

FRACTIONATION

The quality and yield of products obtained by the refiner depends essentially upon the capacity of the distilling towers to fractionate with precision. This fractionating capacity is a function of the design and construction of the tower and reflects the degree of understanding, skill and experience of the builder.

The Lummus Co. has had 30 years experience in the design and construction of fractionating equipment for a wide variety of exacting requirements such as the separation of acetone-methanol mixtures, oxygen and nitrogen from liquid air, the fractionation under vacuum of essential oils, the continuous separation of complex mixtures of acetic acid, aldehydes and tars, etc.

This understanding, skill and experience contribute to the outstanding performance of Lummus Petroleum plant.

THE LUMMUS CO.

Builders of Petroleum Plants

• • •

148 STATE STREET, BOSTON
30 CHURCH STREET, N. Y.

LUMMUS PETROLEUM REFINING PLANTS

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	Dec. 8		Dec. 1		Nov. 24	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.03¼	.03¼	.03¾	.04	.04	.04¼
56-58 450 endpoint	.03	.03¼	.03⅝	.03¾	.04	.04¼
58-60 U. S. Motor	.03¼	.03⅝	.03¾	.04¼	.04¼	.04⅜
60-62 430 endpoint	.03⅜	.03¾	.03⅞	.04¼	.04¼	.04⅜
60-62 400 endpoint	.03½	.04	.04	.04½	.04⅜	.04⅞
64-66 375 endpoint	.03¾	.04½	.04½	.05	.04¾	.05
68-70 360 endpoint	.04	.04¼	.04¾	.05¼	.04⅞	.05⅛
64-66 437 endpoint (blend)	.03¼	.03½	.03¾	.04	.04	.04¼
NORTH TEXAS—						
50-52 450 endpoint	.03		.03¾		.04	
58-60 450 endpoint	.03		.03½	.03¾	.03⅞	.04
58-60 U. S. Motor	.03¼	.03½	.03¾	.04	.04⅛	.04½
60-62 400 endpoint	.03⅜	.03½	.04	.04½	.04½	.04⅞
64-66 390 endpoint	.03½	.04	.04¼	.04½	.04½	.04¾
64-66 375 endpoint	.03⅝	.04	.04½	.04¾	.04¾	.04⅞
68-70 360 endpoint	.04	.04½	.04¾	.05	.04⅞	.05
64-66 437 endpoint (blend)	.03⅛	.03¼	.03¾	.04	.04	
***NORTH LOUISIANA—**						
58-60 U. S. Motor	.03¾	.04	.04¼	.04½	.04¾	
***ARKANSAS—**						
58-60 U. S. Motor	.03¾	.04	.04¼	.04½	.04¾	
PENNSYLVANIA—						
52-54 Naphtha	.04¼		.04¼		.04¼	
54-56 Naphtha	.04¼	.04⅜	.04¼	.04⅜	.04¼	.04½
58-60 Gasoline	.04½	.04¾	.04½	.04¾	.04½	.04¾
60 Gasoline	.04¾	.05	.04¾	.05	.04¾	.05
62 Gasoline	.05	.05¼	.05	.05¼	.05	.05¼
64 Gasoline	.05¼	.05⅜	.05¼	.05⅜	.05¼	.05¾
68-70 350 endpoint gasoline	.05¾	.06	.05¾	.06	.05½	.06
CALIFORNIA—						
†54-58 U. S. Motor (domestic)	.06	.06½	.05½	.06½	.05½	.06½
†58-60 400 endpoint domestic gasoline	.07	.07½	.06	.07¼	.06	.07¼
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.03	.03¼	.03⅜	.03½	.04	.04¼
58-60 U. S. Motor	.03¼	.03⅜	.03¾	.03⅞	.04¼	.04⅜
60-62 400 endpoint	.03½	.04	.04	.04¼	.04⅜	.04⅝
64-66 375 endpoint	.04	.04¼	.04¾	.04⅝	.04⅝	.05
68-70 360 endpoint	.04¼	.04½	.04⅞	.05⅛	.05	.05¼
64-66 437 endpoint (blend)	.03¼	.03½	.03¾		.04	
GULF COAST (Export)—						
58-60 U. S. Motor	.04⅜		.04½		.04½	
60-62 400 endpoint	.04⅞		.04⅝		.05⅛	
61-63 390 endpoint	.04⅞		.04⅞		.04⅞	
64-66 375 endpoint	.05		.05		.05	

*Louisiana, Arkansas and Mississippi delivery. †For Pacific Coast consumption.

NATURAL GASOLINE

	Dec. 8		Dec. 1		Nov. 24	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.02⅞		.03½	.03⅝	.04¼	.04⅜
Grade AA, 80-87.9, 375 e.p., rec. 90%	.02⅝		.03¼	.03⅜	.03⅞	.04
Grade B, 76-83.9, 375 e.p., rec. 85%	.02½		.03¼		.03⅞	.04
Grade BB, 84-92, 375 e.p., rec. 85%	.02½		.03	.03⅛	.03¾	.04
Grade C, 80-92, 375 e.p., rec. 78%	.02½		.03	.03⅛	.03¾	.04
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.02¾		.03⅝	.03½	.04¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.02½		.03⅛	.03¼	.03⅞	.04
Grade B, 76-83.9, 375 e.p., rec. 85%	.02⅝		.03⅛		.03⅞	.04
Grade BB, 84-92, 375 e.p., rec. 85%	.02⅝		.03		.03⅞	.04
Grade C, 80-92, 375 e.p., rec. 78%	.02⅝		.03		.03¾	.04
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.02¾		.03¼		.04¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.02⅝		.03		.04	
Grade C, 80-92, 375 e.p., rec. 78%	.02⅝		.03		.04	
CALIFORNIA—						
75-78 375 endpoint	.05¾	.06½	.05¾	.06½	.05¾	.06½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.02¾		.03½		.04¼	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.02⅝		.03¼		.04	
Grade BB, 84-92, 375 e.p., rec. 85%	.02½		.03		.03¾	.04

BURNING OIL

	Dec. 8		Dec. 1		Nov. 24	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
42-44 water white kerosene	.02¼	.02½	.02¼	.02½	.02¼	.02⅝
NORTH TEXAS—						
41-43 water white kerosene	.02⅛		.02⅛		.02⅛	
40-41 water white kerosene	.02	.02⅛	.02	.02⅛	.02	.02⅛
***NORTH LOUISIANA—**						
41-43 water white kerosene	.03		.03		.03	
***ARKANSAS—**						
41-43 water white kerosene	.03		.03		.03	
PENNSYLVANIA—						
43 Kerosene prime white	.03¾		.03¾		.03½	
45 Kerosene water white	.04		.03⅞	.04	.03⅝	.03¾
46 Kerosene water white	.04		.04		.03⅞	.04
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.04½	.05½	.04½	.05½	.04½	.05½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
42-44 water white kerosene	.02¼	.02½	.02¼	.02½	.02¼	.02½
GULF COAST (Export)—						
41-43 prime white	.04	.04¼	.04¼	.04½	.04¼	.04½
44 prime white	.03¾	.04	.04	.04¼	.04	.04¼

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	Dec. 8		Dec. 1		Nov. 24	
OKLAHOMA (Group 3)—						
Below 18 gravity Fuel Oil (per bbl.)	.22½	.27½	.22½	.27½	.25	.30
18-22 Fuel Oil, per bbl.	.25	.30	.25	.30	.27½	.35
20-22 Fuel Oil, per bbl.	.30	.35	.30	.35	.30	.35
22-26 Fuel Oil, per bbl.	.35	.40	.35	.40	.35	.40
24-26 Fuel Oil, per bbl.	.37½	.45	.37½	.45	.40	.45
26-30 Fuel Oil, per bbl.	.42½	.47½	.42½	.47½	.45	.50
28-30 Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
32-36 Gas Oil (industrial)	.01¾	.01½	.01⅜	.01½	.01⅜	.01½
32-36 Gas Oil (straw color, high cold test)	.01¼	.01⅝	.01¼	.01⅝	.01¼	.01⅝
32-36 Gas Oil (straw color, low cold test)	.01⅝	.01¾	.01⅝	.01¾	.01⅝	.01¾
36-38 Distillate	.01¾	.01⅞	.01¾	.01⅞	.01¾	.01⅞
38-40 Straw Distillate	.01¾	.02	.01¾	.02	.01¾	.02

Note—Fuel oils over 40 cold test generally 5 to 10 cents per barrel less when available.

NORTH TEXAS—						
Below 20 gravity Fuel Oil, per bbl.	.40	.45	.40	.45	.35	.45
24-26 Fuel Oil, per bbl.	.45	.50	.45	.50	.40	.45
32-36 Gas Oil (industrial)	.01¼	.01⅜	.01¼	.01⅜	.01¼	.01⅜
38-40 Straw Distillate	.01⅜	.01¾	.01⅜	.01¾	.01⅜	.01¾
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.35	.50	.35	.50	.35	.50
30-32 Gas Oil (low cold test)	.02	.02⅛	.02	.02⅛	.02	
***ARKANSAS—**						
33-36 Distillate	.02	.02¼	.02	.02¼	.02	
30-32 Gas Oil	.01¾	.02	.01¾	.02	.01¾	.02
16-22 Refinery Fuel Oil, per bbl.	.35	.50	.35	.50	.35	.50
GULF COAST (South Texas)—						
Gas Oil	.02¼	.02½	.02¼	.02½	.02¼	.02½
Bunker C Fuel (cargo lots), per bbl.	.40	.45	.40	.45	.40	.45
Bunker C Fuel (small lots)	.45		.45		.45	
PENNSYLVANIA—						
30-34 Gas Oil	.02½		.02½		.02⅝	
36-40 Gas Oil	.02½	.02⅝	.02½	.02⅝	.02⅝	.02¾
CALIFORNIA—						
‡42-45 480 endpoint engine distillate	.07	.08	.07	.08	.07	.08
15-19 Fuel Oil, Bunker (at tidewater), bbl.	.60	.80	.60	.80	.60	.80
15-19 Fuel Oil, cargo lots (tidewater), bbl.	.55	.75	.55	.75	.55	.75
†15-19 Fuel Oil (f.o.b. tank cars), bbl.	.45	.75	.45	.75	.45	.75
27 plus Diesel, per bbl.	.80	1.00	.80	.95	.80	.95
30-34 Gas Oil	.85	1.05	.75	.95	.75	.95
CHICAGO DISTRICT (Based on Group 3)—						
18-22 Fuel Oil, per bbl.	.25	.30	.27½	.32½	.32½	.37½
22-26 Fuel Oil, per bbl.	.35	.40	.35	.40	.37½	.42½
28-30 Fuel Oil, per bbl. (zero)	.52½	.57½	.52½	.57½	.52½	.57½
32-36 Gas Oil (industrial)	.01⅜	.01⅝	.01⅜	.01⅝	.01⅝	.01⅞
32-36 Gas Oil (zero)	.01¼	.01⅞	.01¼	.01⅞	.01⅞	.02⅛
38-40 Straw Distillate	.01⅞	.02	.01⅞	.02	.02	.02¼

*Louisiana, Arkansas, Mississippi and East Texas delivery. †Lowest priced fuel oil has high sulphur content. ‡For Pacific Coast consumption.

LUBRICATING OIL AND WAX

	Dec. 8		Dec. 1		Nov. 24	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.04¼	.04½	.04½	.04¾	.04½	.04¾
100 vis., 3 color, 20-25 cold test	.04		.04	.04½	.04	.04½
150 vis., 3 color, 20-25 cold test	.06½	.06¾	.06¾	.07¼	.06¾	.07¼
150 vis., 4 color, 20-25 cold test	.05¾	.06	.06¼	.06½	.06¼	.06½
180 vis., 3 color, 23-28 cold test	.08	.08¼	.08¼	.08¾	.08¼	.08¾
180 vis., 4 color, 23-28 cold test	.07½	.07¾	.07¾	.08¼	.07¾	.08¼
180 vis., 5 color, 23-28 cold test	.06¾	.07	.07¼	.07½	.07¼	.07½
200 vis., 3 color, 23-28 cold test	.09	.09½	.09½	.10	.09½	.10
200 vis., 4 color, 23-28 cold test	.08¾	.09	.09	.09½	.09	.09½
200 vis., 5 color, 23-28 cold test	.07¾	.08	.08¼	.08½	.08¼	.08½
240 vis., 3 color, 25-30 cold test	.10½	.10¾	.11	.11¼	.11	.11¼
240 vis., 4 color, 25-30 cold test	.09¾	.10¼	.10¼	.10¾	.10¼	.10¾
240 vis., 5 color, 25-30 cold test	.09¼	.09½	.09¾	.10	.09¾	.10
280 vis., 3 color, 25-30 cold test	.12	.12½	.12½	.13	.12½	.13
280 vis., 4 color, 25-30 cold test	.11	.11½	.11½	.12	.11½	.12
280 vis., 5 color, 25-30 cold test	.10¼	.10½	.10¾	.11	.10¾	.11
Cylinder Stocks:						
600, steam refined, light green	.04	.06	.04	.06	.04½	.06
600, steam refined, dark green	.03½	.05	.03½	.05	.04	.05
190-200 vis., D color, Bright Stocks	.19	.20	.21	.22	.21	.22
150-160 vis., D color, Bright Stocks 0-10 c.t.	.17½	.18	.19½	.20	.19½	.20
150-160 vis., D color, Bright Stocks 10-25 c.t.	.17	.17½	.19½		.19½	
150-160 vis., D color, Bright Stocks 25-40 c.t.	.16½	.17	.19		.19	
150-160 vis., E color, Bright Stocks	.16½		.18½	.19	.18½	.19
Waxes:						
124-126 White Crude Scale Wax	.01⅝	.01⅞	.01⅝	.01⅞	.01⅝	.01⅞

All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.05½	.06	.05½	.06	.05½	.06½
34 Sundebloom	.05	.05¼	.05	.05¼	.05	.05½
36 Miners' Neutral	.05½		.05½		.05½	
150, 3 color	.16	.16½	.16	.16½	.16½	.17
180, 3 color	.19	.19¼	.19	.19¼	.19	.19½
200, 3 color	.20½	.21	.20½	.21	.21	.21½
220, 3 color	.24½	.25	.24½	.25	.23½	.25½
600, steam refined	.12	.12½	.12½	.12¾	.13	
650, steam refined	.15½	.15¾	.15½	.15¾	.16	.16½
600, Pennsylvania Flash	.16½	.17	.16½	.17	.17	.18
600, E filtered	.17	.17¼	.17	.17¼	.17	.17½
600, D filtered, Oil City	.22		.21	.22	.21	.23
Pennsylvania Bright Stocks below 35 c.t.	.22	.23	.22	.23	.22	.23
Pennsylvania Bright Stocks above 35 c.t.	.21	.22	.21	.22	.21	.22
*122-124 White Crude Scale Wax	.02⅛		.02⅛		.02	
*124-126 White Crude Scale Wax	.02⅝		.02⅛		.02	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.05½	.05¾	.05½	.05¾	.05½	.05¾
200 vis., 3 color, pale oil	.07½	.07⅝	.07½	.07⅝	.07½	.08⅛
300 vis., 3 color, pale oil	.08¾	.08⅞	.08¾	.08⅞	.08¾	.08⅞
500 vis., 36 color, pale oil	.09⅞	.10⅛	.09⅞	.10⅛	.09⅞	.10⅛
750 vis., 3½ color, pale oil	.11⅜	.11⅞	.11⅜	.11⅞	.11⅜	.11⅞
1,200 vis., 3½ color, pale oil	.13⅞	.14⅜	.13⅞	.14⅜	.13⅞	.14⅜
2,000 vis., 4 color, pale oil	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜
200 vis., 5-6 color, red oil	.06¾	.06⅞	.06¾	.06⅞	.06¾	.06⅞
300 vis., 5-6 color, red oil	.07⅞	.08⅛	.07⅞	.08⅛	.07⅞	.08⅛
500 vis., 5-6 color, red oil	.09½	.09⅝	.09½	.09⅝	.09½	.09⅝
1,200 vis., 5-6 color, red oil	.12⅞	.13⅜	.12⅞	.13⅜	.12⅞	.13⅜
2,000 vis., 6 plus color	.14⅞	.15⅜	.14⅞	.15⅜	.14⅞	.15⅜
CALIFORNIA—						
130 vis., 2½-3 color	.08¼	.08¾	.08¼	.08¾	.08¼	.08¾
200 vis., 2½-3 color	.09¼	.10¼	.09¼	.10¼	.09¼	.10¼
300 vis., 3-3½ color	.10¼	.11¼	.10¼	.10¼	.10¼	.11¼

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

350 vis., 3½-4 color	.11¼	.12	.11¼	.12	.11¼	.12
450 vis., 3½-4 color	.12	.12¾	.12	.12¾	.12	.12¾
550 vis., 3½-4 color	.12¾	.13¾	.12¾	.13¾	.12¾	.13¾
Red Neutral:						
200 vis., 4½-5 color	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
300 vis., 5-6 color	.10½	.11	.10½	.11	.10½	.11
500 vis., 4½-5 color	.12¾	.13½	.12¾	.13½	.12¾	.13½
600 vis., 6½ plus color	.13½	.14¼	.13½	.14¼	.13½	.14¼
700 vis., 6½ plus color	.14½	.15¼	.14½	.15¼	.14½	.15¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) EXPORT PRICES

	Dec. 8	Dec. 1		Nov. 24	
Gaso, U.S.M., 58-60, 437 e.p., 65 O.N. (min.)	.07	.06¼	.06½	.06¼	.06½
Gaso., U.S.M., 58-60 437 e.p., below 65 O.N.	.06½	.05¾	.06	.06	
Kerosene, water white, 41-43	.06	.05½		.05½	
*Fuel Oil, Bunker "C"	.60	.60		.60	
†Fuel Oil, Diesel, 28-30, per bbl.	1.30	1.30		1.30	
Gas Oil, 28 gravity plus	.04	.04		.04	
25 pale Paraffin Oil, tank car	.10¼	.10¼		.10¼	
28 pale Paraffin Oil, tank car	.07¼	.07¼		.07¼	
280 red Paraffin Oil, tank car	.12½	.12½		.12½	
250 red Paraffin Oil, tank car	.11½	.11½		.11½	
225 red Paraffin Oil, tank car	.10	.10		.10	
200 red Paraffin Oil, tank car	.09¼	.09¼		.09¼	
Domestic heating oil, min. 32 grav., tank car	.03½	.03½		.03½	
Refined Wax:					
120-122 a.m.p., per lb.	.02⅞	.02⅞		.02⅞	
125-127 a.m.p., per lb.	.03	.03		.03	
130-132 a.m.p., per lb.	.03½	.03½		.03½	
133-135 a.m.p., per lb.	.04	.04		.04	
135-137 a.m.p., per lb.	.04½	.04½		.04½	
Petrolatum in barrels in carload lots, per pound:					
Dark green	.01¾	.01¾		.01¾	
Amber	.02½	.02½		.01½	
Extra amber	.03	.03		.03	
Cream	.05½	.05½		.05½	
Lily white	.06½	.06½		.06½	
Snow white	.07	.07		.07	

*Lighterage 5 cents a barrel extra. Price of 60 cents was established for Bunker "C" fuel oil on October 16 and has not been changed since that date. Prices of 70 cents carried in later issues were incorrect. †Lighterage 6.5 cents a barrel. Price of $1.30 for Diesel oil was established on October 16 and has not been changed since that date. Prices of $1.50 carried in later issues were incorrect.

NEW YORK (BAYONNE) REFINERY PRICES

	Dec. 8	Dec. 1		Nov. 24	
600, steam refined cylinder stocks, in bbls..	.21	.22	.21	.22	.21	.22
635, steam refined	.22½	.23	.22½	.23	.22½	.23
650, steam refined	.24	.24½	.24	.24½	.24	.24½
600, Pennsylvania Flash	.25	.26	.25	.26	.25	.26
630, Pennsylvania Flash	.28	.29	.28	.29	.28	.29
600, Warren E	.24	.24½	.24	.24½	.24	.24½
600, Oil City E	.23	.23½	.23	.23½	.23	.23½
Light 140-150 Bright Stocks	.30	.31	.30	.31	.32	.33
Dark 140-150 Bright Stocks	.29	.30	.29	.30	.31	.32

LOS ANGELES EXPORT PRICES

	Dec. 8		Dec. 1		Nov. 24	
Kerosene, water white	.04	.04¾	.04	.04¾	.04	.04¾
U. S. Motor gasoline, 53-55, 437 e.p.	.04¼	.04¾	.04¼	.04½	.04¼	.04½
58-60, 400 endpoint gasoline	.04¾	.05	.04¾	.05	.04¾	.05

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

East Texas (Nov. 2, 1931)†.....$ .83
Corsicana heavy (Nov. 2, 1931)*..... .49
Other fields.....See gravity table

†Posted by Panola Pipe Line Co., Magnolia Petroleum Co., Tidal Refining Co., Sinclair Refining Co., Gulf Pipe Line Co., Atlas Pipe Line Co. *Magnolia Petroleum Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective November 1, 1931)
Pennsylvania Grade Oil in National Transit Lines (Bradford Field) (Oct. 15, 1931).....$2.00
Pennsylvania Grade Oil in Southwest Pennsylvania Lines..... 1.70
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)..... 1.60
Penna Grade Oil in Buckeye Pipe Line Lines (Dec. 1, 1931)..... 1.40
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Nov. 9, 1931)..... .85
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931).... .60
Wayne district Oil in Cumberland Pipe Lines (April 23, 1931)..... 1.17

Tide Water Pipe Co.
(Effective November 1, 1931)
Bradford, Pa.....$2.00
Allegany, N. Y..... 2.00

Pure Oil Co.
(Effective September 12, 1931)
Cabin Creek, W. Va.....$1.60
Bradford Hollow, W. Va..... 1.60
Kelly's Creek, W. Va..... 1.60

Pennzoil Co.
(Effective October 8, 1931)
Pennsylvania Grade Oil in National Transit Lines:
Group A.....$1.95
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B.....$1.94
Includes Titusville district.
Group C.....$1.93
Includes Turkey and Tidiout districts.
Group D.....$1.92
Includes Bear Creek and Porkey districts.
Group E.....$1.90
Includes Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emienton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties....See gravity table

WEST TEXAS

Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties*.....$ .50
Lea County, N. Mex.‡..... .50
Toborg, Pecos County, Aug. 25, 1931†. .25
*The Texas Company, November 2, 1931; Magnolia Petroleum Co., Humble Oil & Refining Co., Gulf Pipe Line Co., same day. †Shell Petroleum Corp. ‡Humble Oil & Refining Co., The Texas Company, November 2, 1931.

GULF COAST

Grade A and Grade B classifications discontinued by leading buyers.....
.....See gravity table
Jennings, La. (Nov. 2, 1931)*.....$ .65
Lockport, La. (Aug. 27, 1931)†.....
.....See Gulf Coast gravity table
Refugio light.....See gravity table
Refugio heavy (Nov. 2, 1931)‡..... .75
Markham (Nov. 2, 1931)§..... .67
High Island (Nov. 2, 1931)¶..... .65
*Gulf Refining Co. †Vacuum Oil Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Gulf Pipe Line Co.

NORTH LOUISIANA AND ARKANSAS

Smackover, Ark. (all grades) (Nov. 4, 1931).....$ .55
Urbana, Ark. .....See note below
Bellevue, La. (June 3, 1931)..... .25
Urania, La. (Nov. 2, 1931)..... .50
Calion, Ark. (Aug. 22, 1931)..... .52
East El Dorado, Ark. (Nov. 4, 1931)... .55

(Continued on Page 88)

CRUDE OIL GRAVITY TABLE

	1 Kansas and Oklahoma	2 North and Central Texas	3 East Central Texas	4 Gray County, Texas	5 Carson and Hutchinson Counties, Texas	6 Salt Creek, Wyo.	7 North Louisiana and Arkansas	8 Gulf Coast (Tex. and La.)
Below 25 degrees	...	...	...	...	...	...	...	$ .70
25-25.9 degrees	...	...	...	...	...	...	...	.71
26-26.9 degrees	...	...	...	...	...	...	...	.72
27-27.9 degrees	...	...	...	...	...	...	...	.73
28-28.9 degrees	...	...	...	...	...	...	...	.74
Below 29 degrees	$ .61	$ .61	$ .61	...	...	$ .61	$ .61	...
29-29.9 degrees	.63	.63	.63	...	...	.63	.63	.75
30-30.9 degrees	.65	.65	.65	...	...	.65	.65	.76
31-31.9 degrees	.67	.67	.67	...	...	.67	.67	.77
32-32.9 degrees	.69	.69	.69	...	...	.69	.69	.78
33-33.9 degrees	.71	.71	.71	...	...	.71	.71	.79
34-34.9 degrees	.73	.73	.73	$ .61	$ .56	.73	.73	.80
35-35.9 degrees	.75	.75	.75	.63	.58	.75	.75	.81
36-36.9 degrees	.77	.77	.77	.65	.60	.77	.77	.82
37-37.9 degrees	.79	.79	.79	.67	.62	.79	.79	.83
38-38.9 degrees	.81	.81	.81	.69	.64	.79	.79	.84
39-39.9 degrees	.83	.83	.83	.71	.66	.79	.79	.85
40 degrees and over	.85	.85	.85	.73	.68	.79	.79	.86

The Magnolia Petroleum Co., which pays a flat price in every field in which it purchases oil, posted the following price notice: "Effective November 2, 1931, at 7 a. m. and until further notice our prices on crude oil will be as follows at the wells: North and North Central Texas, which includes only Burkburnett, Archer, Stephens, Henrietta, Electra, Comanche and Olden, 83 cents; Central Texas, which includes only Mexia, Wortham, Corsicana light, Panola County and Lytton Springs, 79 cents; East Texas district, 83 cents; West Texas, which includes Winkler, Crane, Upton, Howard, Glasscock and Mitchell Counties, 50 cents; Panhandle district of Texas; Gray County, 73 cents; Carson and Hutchinson Counties, 66 cents; Southwest Texas: Mirando, 75 cents; Darst Creek, 60 cents; Corsicana heavy and Luling, 49 cents. Oklahoma: Cushing, Yale, Oklahoma City, Morrison, Wewoka, Seminole, 83 cents; Cement, Duncan and Walters, 75 cents; Hewitt and Graham, 67 cents; Healdton, 52 cents."

The Magnolia Petroleum Co. made the following announcement applying to North Louisiana and Arkansas: "Effective November 4, 1931, at 7 a. m., and until further notice our prices on crude oil in the States of Louisiana and Arkansas will be as follows per barrel at the wells: Louisiana—Bull Bayou, 83 cents; Haynesville, 65 cents; Pine Island, 73 cents; Cotton Valley, 61 cents. Arkansas—El Dorado, 63 cents; Rainbow, 63 cents; El Dorado East Field, 55 cents; Smackover, 55 cents."

The White Eagle Oil Corp., effective November 2, posted the following prices in Kansas: Group 1—Eastborough, Wright, Robbins, Greenwich, Lorena and North Greenwood Pools, 85 cents; Group 2—Eastman, Fox-Bush and Keighly, 83 cents; Group 3—Smock, Sluss, Leon-Weaver, Peabody and Rock, 81 cents; Group 3A—Ritz-Canton, 79 cents; Group 4—Urschell, Florence, Elbing, Nuttle-Koogler, 77 cents; Augusta, 77 cents; Group 5—Gelwick, 61 cents.

Column 1—Led by Continental Oil Co., effective November 2, and adopted by other purchasers on same day, excepting that the Carter Oil Co., Gypsy Oil Co. and Pure Oil Co. started their schedule at below 25 degrees, 53 cents; 25 degrees, 55 cents, with 2 cents added for each degree upward to 40 degrees and above at 85 cents.

Column 2—Led by Continental Oil Co., effective November 2, and followed on same day by other purchasers.

Column 3—Led by Humble Oil & Refining Co., effective November 2.

Column 4—Led by The Texas Company, November 2, followed by Humble Oil & Refining Co., Gulf Pipe Line Co. and H. F. Wilcox Oil & Gas Co. same day.

Column 5—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co. and Gulf Pipe Line Co.

Column 6—Midwest Refining Co., November 2.

Column 7—Standard Oil Co. of Louisiana, November 4, 1931; The Texas Company, Gulf Refining Co. and Louisiana Oil Refining Co. same day.

Column 8—Led by The Texas Company, followed on same day by Humble Oil & Refining Co., Vacuum Oil Co., Gulf Pipe Line Co. and Sun Oil Co., but two last named companies' schedules stop at 35 degrees and above at 81 cents, and the Sinclair Refining Co., but latter company's schedule stops at 31 degrees and above at 71 cents.

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO. OF CALIFORNIA

For its current purchases of crude oil at the well (unless otherwise specified) the allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee. All gravities above those quoted take highest price offered in that field. Effective June 19, 1931, at 7 a. m.

Gravity	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea, Canon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills
14-14.9	$ .65	$ 65	$ 65	$ .65	$ .65	$ .65	$ .65	$ .65	...	$ .55	$ .55
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
20-20.9	.65	.65	.65	.66	.66	.65	.65	.65	...	.55	.55
21-21.9	.65	.65	.65	.68	.67	.65	.66	.65	...	.55	.57
22-22.9	.65	.65	.66	.70	.68	.66	.68	.65	...	.56	.59
23-23.9	.67	.67	.68	.72	.70	.67	.70	.66	...	.58	.60
24-24.9	.69	.69	.70	.74	.72	.68	.72	.67	$ .65	.61	.62
25-25.9	.71	.71	.72	.76	.74	.70	.74	.69	.65	.64	.64
26-26.9	.73	.73	.74	...	.76	...	...	.71	.65	.66	.66
27-27.9	.75	.75	.76	...	.78	...	...	.73	.68	.68	.67
28-28.9	.77	...	...	...	.80	...	...	.75	.71	.71	.69
29-29.9	.79	...	...	...	...	...	...	.77	.73	.74	.71
30-30.9	.81	...	...	...	...	...	...	.79	.75	.76	.72
31-31.9	...	...	...	...	...	...	...	...	.78	...	...
32-32.9	...	...	...	...	...	...	...	...	.80	...	...
33-33.9	...	...	...	...	...	...	...	...	.83	...	...
34-34.9	...	...	...	...	...	...	...	...	.85	...	...
35-35.9	...	...	...	...	...	...	...	...	.87	...	...

Standard Oil Co. of California prices in other fields:

Wheeler Ridge—55 cents per barrel for all grades (14° to 25.9°).

Coalinga—55 cents for all grades from 14° to 24-24.9°; 57 cents for 25 gravity.

Newhall, McKittrick and Kern River—55 cents for all grades (14° to 19.9°).

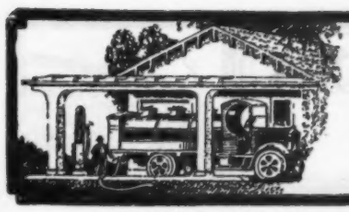
Montebello—65 cents for all grades (14° to 25.9°).

Whittier and LaHabra—65 cents for all grades (14° to 22.9°).

Elwood Terrace, f.o.b. ship—32° to 32.9°, 79 cents; 34° to 34.9°, 81 cents; 35° to 35.9°, 84 cents; 36° and above, 87 cents.

Playa Del Rey—Prices subject to field gathering charge of 5 cents per barrel—19° to 19.9°, 65 cents; 20° to 20.9°, 65 cents; 21° to 21.9°, 66 cents; 22° to 23.9°, 67 cents, 23° to 23.9°, 68 cents; 24° to 24.9°, 67 cents; 25° and above, 68 cents.

(Continued on Page 95)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Dec. 8

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Chicago	15 0	15.0	3.0	9 0
Decatur, Ill.	15.4	15.4	3.0	9.0
E. St. Louis	14 7	14.7	3.0	8.2
Joliet	15.4	15.4	3.0	9 0
Peoria	15.4	15.4	3 0	9.0
Quincy	15 2	15 2	3 0	8 8
Davenport, Ia.	15 5	15.5	3.0	9.3
Des Moines	14 4	14 4	3 0	8.0
Keokuk	15.5	15.5	3 0	6.3
Sioux City	15 1	15 1	3.0	8.9
Duluth, Minn.	16.5	16 5	3 0	9.9
Mankato	16.1	16 1	3.0	8 0
Minneapolis	14 4	14.4	3.0	9 9
LaCrosse, Wis.	17.2	17.2	4 0	10 0
Milwaukee	16.1	16.1	4 0	8.9
Madison	16 3	16.3	4 0	9.1
Detroit, Mich.	14 5	14.5	3.0	10 7
Grand Rapids	15 7	15 7	3 0	10.6
Saginaw	15.9	15.9	3.0	10 8
Evansville, Ind.	16 1	16.1	4.0	9 9
Indianapolis	16.3	16 3	4 0	10.3
South Bend	16 4	16 4	4 0	8 9
Fargo, N. D.	17 9	17.9	3.0	11.9
Huron, S. D.	17 3	17.3	4.0	10 7
Sioux Falls	16 8	16.8	4 0	10 4
K. C., Mo.	14 9	14 9	3 0	7 6
Springfield*	14.9	14.9	3.0	8 5
St. Louis*	13.9	13.9	2 5	8 3
St. Joseph	10 4	10.4	3 0	7 5
Wichita, Kans	13.8	13 8	3 0	7 8
Bartlesville, Ok.	14.0	16.0	5.0	7.0

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 1½ cents or more below the price on the regular grade.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective April 15—Discounts on Q.D.A. on 1,000 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement; Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	14.0	15.0	4.0	8 0
Fort Worth	14 0	15 0	4.0	7 0
Houston	13 0	15 0	4 0	8.0
San Antonio	13.0	15 0	4 0	7 0
El Paso	15 0	17.0	4.0	10.9
Texarkana	13 0	15.0	4 0	8 0
Muskogee, Ok.	10.0	12.0	5 0	8.0
Okla. City	14 0	16 0	5 0	7 0
Tulsa	14 0	16 0	5.0	8.0
Ft. Smith, Ark.	*16.5	17.0	5 0	*11 0
Little Rock	*17.5	17.0	6.0	*11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

*Less 2 cents to dealers.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Denver, Colo.	12.0	15 0	4 0	12.5
Pueblo	12.0	15.0	4 0	12 0
Grand Jctn.	18.0	21.0	4.0	14 5
Casper, Wyo.	15.0	18 0	4.0	10 0
Cheyenne	†15 0	15 0	4.0	11 5
Butte, Mont.	18 0	21 0	5.0	16.0
Billings	20 0	23.0	5.0	14.5
Great Falls	21 0	23 0	5.0	16 0
Helena	21 0	24.0	5 0	16 0
Salt Lake, Utah	17 5	20.5	4.0	16 0
Albu'que, N. M.	18 0	21.0	6.0	14.0
Boise, Idaho	21 0	24 0	5.0	13 0
Twin Falls*	20 5	20 0	5 0	13 0

*2½-cent discount off tank wagon to dealers.

†3-cent discount off tank wagon to dealers.

OHIO

Standard Oil Co. (Ohio)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Ohio points	15.0	16 0	4.0	*12.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13 cents.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Omaha	14.9	15 9	4 0	9 25
McCook	17 0	17 0	4 0	7 5
Norfolk	16.75	17.75	4 0	9.75
N. Platte	17 75	18.75	4 0	10.50
Scottsbluff	17.0	17.0	4.0	9.0

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

PACIFIC COAST TERRITORY

Standard Oil Co. (New Jersey)

	Gasoline: Tank truck	Gasoline: Posted wh'is'e*	Gasoline: Incl'ds tax of	Kero. tank wagon
Fresno	12.5	16.5	3 0	17.0
San Francisco	12 5	16 5	3 0	15 5
Los Angeles	12 0	16.0	3 0	15.5
Reno, Nev.	16 5	20 5	4.0	19.0
Portland, Ore.	14 0	18 0	4 0	16 5
Seattle, Wash.	15.0	19 0	5.0	16.5
Tacoma	15 0	19.0	5 0	16.5
Spokane	18 5	22.5	5 0	20.5
Phoenix, Ariz.	14.5	15 5	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 3 cents plus a 2-cent special temporary discount subject to withdrawal at any time.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	16 6	17 6	2.0	15.6
New York*	12 3	14.3	2 0	14 2
Buffalo	15.8	15 8	2 0	14 8
Rochester	16 0	16.0	2.0	14 0
Syracuse	16.8	16.8	2 0	14 8
Boston, Mass.	16 5	16.5	3 0	12 5
Augusta, Me.	18 8	18.8	4 0	14 8
Manch'tr, N. H.	18.4	18 4	4 0	14.0
Burlington, Vt.	19.3	19 3	4.0	15.2

*Prices in steel barrels.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	14 5	14.5	6.0	12 0
Baton Rouge	16 5	17.0	5 0	12 0
Alexandria†	15.5	15 5	6.0	12 0
Lafayette*	17 5	18.0	6 0	12.3
Lake Charles*	16 5	16 5	6.0	12.6
Shreveport	16.5	17 0	5 0	12 0
Knoxville, Tenn.	20.0	20 5	6 0	13.5
Memphis	16 0	16.0	6 0	10 0
Chattanooga	19 5	20.0	6 0	12.0
Nashville	19.0	19 5	6 0	12 5
Bristol	19.0	20.0	6 0	14.0
Lt. Rock, Ark.	17.5	18.0	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	11 7	6.0
V.M.P. naphtha	13.7	7 5
Cleaners' naphtha	15.2	9 0
Stanisol	15.2	9.0

Tank wagon prices f.o.b. Chicago and Whiting, effective Nov. 6.

STANOLIND FURNACE OIL IN CHICAGO

Effective July 1, prices f.o.b. Chicago, tank wagon prices: 1 to 99 gallons, 8 cents; 100 gallons or more, 6 cents.

Stanolax Fuel

Effective May 9, f.o.b. Chicago, tank wagon prices: 1 to 199 gallons, 7 cents; 200 gallons or more, 5 cents. Sinclair met this by bringing down the price of its No. 2.

Fuel Oils

Chicago tank wagon prices (in lots of 400 gallons and over): 38-40 straw distillate, 6 cents; 32-36 gas oil (light zero), 5.5 cents; 32-36 gas oil (industrial), 5.25 cents; 28-30 zero fuel oil, 5 cents; 24-26 fuel oil, 4.25 cents; 18-22 fuel oil, 3.75 cents.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	15.0	16 0	3 0	11 0
Philadelphia	14.0	15.0	3 0	11.0
Scranton	15 0	16.0	3.0	11 0
Allentown	15 0	16.0	3 0	11.0
Altoona	15 0	16 0	3 0	11 0
Erie	15 0	16 0	3.0	11.0
Dover, Del.	15.0	16.0	3 0	11.0
Wilmington	15 0	16.0	3 0	11.0
Springf'd, Mass.	13 0	14 0	3 0	10 0
Worcester	14 3	15.3	3.0	10 0
Boston	13 5	14.5	3 0	10.0
Providence, R.I.	11 5	12.5	2 0	10.0
Hartford, Conn.	13 0	14 0	2.0	10 0
New Haven	14 6	15 6	2.0	10.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.*	19.0	19 0	6.0	12 5
Augusta	20.0	21 0	6.0	14.0
Macon	20 0	20.0	6 0	12 9
Savannah	19 0	19 0	6.0	13 0
Birm'ham, Ala.	18 0	18 0	6 0	13 0
Mobile	17.5	17 5	5.0	10.0
Montgomery	21.0	21 0	6.0	13 5
Jackson, Miss.	18 0	18.0	5 5	11 5
Vicksburg	18.0	18 0	5 5	8.0
Jack'ville, Fla.	20 0	21 0	7.0	11 0
Miami	21.0	22.0	7 0	13.0
Pensacola	21 0	22.0	7 0	13.0
Tampa	20 0	21.0	7 0	12.0
Lexington, Ky.	17 0	18 0	5.0	12 0
Covington	18 0	19 0	5 0	12.0
Louisville	16.0	17.0	5.0	11.0
Corbin	18.0	19.0	5.0	15.0

A third grade "Kyso Green," is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents. To Mobile state tax add 1-cent city tax and 2½ cents county tax.

Effective April 2 price to dealers 2 cents under posted tank wagon price.

*An additional discount of 1 cent is offered to dealers here effective October 6.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incl'ds tax of	Kero. tank wagon
Atl'tic City, N.J.	15 7	16 7	3 0	11.5
Newark	14 7	15 7	3.0	10 5
Annapolis, Md.	16 2	17 2	4 0	11.0
Baltimore	15.4	16.4	4 0	8.5
Cumberland	17.2	18.2	4 0	12 0
Wash'g'n, D. C.	13 9	14 9	2.0	10 7
Danville, Va.	18 0	19.0	5 0	11 8
Norfolk	16.5	17 5	5.0	10.3
Petersburg	17 5	18.5	5.0	11 3
Richmond	16.9	15 9	5 0	10.7
Roanoke	17.7	16 7	5 0	12 0
Charles'n, W.Va.	16.7	17 7	4.0	11.5
Keyser	17.8	18 8	4 0	12.1
Parkersburg	15.4	16 4	4 0	10.2
Wheeling	16 6	17 6	4 0	11 4
Charlotte, N. C.	17 5	18 5	6.0	10.7
Hickory	19 8	20.8	6.0	12 6
Mt. Airy	19 7	20.7	6 0	12.5
Raleigh	19 4	20 4	6.0	12 3
Salisbury	19.7	20 7	6 0	12.5
Charleston, S.C.	17.5	18 5	6 0	10 3
Columbia	19.4	20 4	6.0	12 2
Spartanburg	19.7	20.7	6.0	12.5

Two cents per gallon discount off retail tank wagon price of gasoline to dealers except Washington, D. C., and States of Maryland and New Jersey, where discount is 3 cents.

TANK WAGON CHANGES

Standard of Louisiana, effective December 3, advanced gasoline tank wagon and service station prices one-half cent at Bristol, Tenn.

Continental Oil Co., effective November 30, reduced gasoline tank wagon and service station prices 2 cents at Denver, Colo.

Standard Oil Co. of New Jersey, effective November 26, reduced gasoline serv-

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CRUDE OIL PRICES

(Continued from Page 87)

Stephens, Ark., below 29° (Aug. 24, 1931)	.41
Stephens, Ark., 29° and above (Aug. 24, 1931)	.44
Other fields	See gravity table

Note—Smackover, all grades, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co. Bellevue posted by Magnolia Petroleum Co.; Urania by H. L. Hunt, Inc., and Louisiana Oil Refining Co.; Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co.; Stephens, Ark., by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Nov. 2, 1931)‡	$ .60
Luling (Nov. 2, 1931)†	.42
Mirando (Nov. 2, 1931)†	.75
Pettus (Nov. 2, 1931)*	.81
Salt Flat (Nov. 2, 1931)*	.60
Thrall§	
Lytton Springs (Lockhart)	See gravity table
Dobrowolski§	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	
Somerset§	
Same as Mid-Continent gravity scale up to and including 38-38.9°.	

‡The Texas Company. *Humble Oil & Refining Co. †Magnolia Petroleum Co. §Thrall prices same as North Central Texas less 19½ cents per cwt. freight. ¶Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products. ‖Pioneer Oil & Refining Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles, light (Aug. 24, 1931)	$ .76
Iles, heavy (Aug. 24, 1931)	.53
Fort Collins (Nov. 3, 1931)	.71
Florence (Nov. 2, 1931)	.65
Wellington (Nov. 3, 1931)	.61
Dutton Creek (Nov. 3, 1931)	.75
Rock Creek, Wyo. (Nov. 3, 1931)	.85
Frannie, light (Nov. 3, 1931)	.61
Frannie, heavy (Nov. 3, 1931)	.51
Salt Creek	Mid-Continent gravity table
Big Muddy (Nov. 3, 1931)	.83
Grass Creek (Nov. 3, 1931)	1.05
Elk Basin (Nov. 3, 1931)	1.05
Lance Creek (Aug. 24, 1931)	1.05
Poison Spider (Mar. 5, 1931)	.70
Notches (Mar. 14, 1927)	.61
Hudson (June 3, 1931)	.61
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 22, 1930)	1.10
Osage (Apr. 15, 1931)	.91
Lost Soldier (Nov. 3, 1931)	.69
Hamilton Dome (Nov. 3, 1931)	.45
Greybull (Nov. 3, 1931)	1.05
Cat Creek (Nov. 3, 1931)	1.05
Pondera (Nov. 3, 1931)	.90
Sunburst, Mont. (Nov. 3, 1931)	1.00
Hogback, N. Mex. (Aug. 24, 1931)	.80
Lea County, N. Mex. (Nov. 3, 1931)	.50
Border, Mont.	1.55
Red Coulee, Alberta	1.55
Dry Creek, Mont. (Aug. 24, 1931)	1.00
Maljamar (Aug. 22, 1931)	1.00
Artesia-Jackson (Nov. 3, 1931)	.50

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective November 3, 1931)

Lima	$1.00
Wooster	1.15
Illinois	.95
Indiana	.60
Princeton	.95
Plymouth	Shut in
Western Kentucky	.90
Midland, Mich. (Oct. 9, 1931)*	.55
Dundee, Mich.†	
Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale Upper and Lower Traverse Sands, Mich.†	
....Same as Mid-Continent gravity scale	
Somerset, Ky. (Nov. 4, 1931)	.80
Hart County, Ky. (Nov. 1, 1931)‡	.60

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. ‡Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through its own pipe line.

MEXICO

Panuco*	$ .45

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

CANADA

Ontario (Nov. 2, 1931):	
Petrolia*	$1.90
Oil Springs*	1.97
Alberta (Aug. 24, 1931):	
Turner Valley†:	
Crude oil 45-45.9	2.05
Crude oil 50 and above	2.65
Crude naphtha	3.12
Discolored naphtha	2.88

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

MID-CONTINENT REFINERY RUNS DECLINE

(Continued from Page 16)

REFINERY OPERATIONS IN ARKANSAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Dec. 1	Runs Nov. 1
James H. Berry & Sons, Waterloo	2,000	800	1,000
Henry H. Cross Co., Smackover	6,000	4,250	4,000
Houston Oil Co., Camden	6,000	(*)	(*)
Kettle Creek Refining Co., Pearson	5,000	2,000	2,200
Lion Oil & Refining Co., El Dorado	12,000	6,500	6,400
Macmillan Petroleum Products Co., Norphlet	2,000	2,000	2,000
Ouachita Valley Refining Co., El Dorado	3,000	1,100	1,200
Root Refining Co., El Dorado†	10,000	2,000	4,000
Simms Oil Co., Smackover	3,000	2,700	2,600
Union Asphalt Co., El Dorado‡	....	....	....
Total	48,000	21,350	23,400

*Shut down. †Root refinery shut down first 15 days of December due to fire. ‡Reduces residuum purchased from Lion Oil & Refining Co., no crude run.

REFINERY OPERATIONS IN NORTH LOUISIANA

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Dec. 1	Runs Nov. 1
Bayou State Refining Co., Hosston	750	(*)	(*)
Louisiana Oil Refining Co., Shreveport, Bossier	19,000	16,000	17,000
Spartan Refining Co., Shreveport	10,000	7,000	7,500
Stanolind Oil & Gas Co., Superior	3,500	4,200	2,800
The Texas Company, Shreveport	7,000	(*)	(*)
Total	40,250	27,200	27,300

*Shut down.

REFINERY OPERATIONS IN WEST TEXAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Dec. 1	Runs Nov. 1
Bluebonnett Oil Refining Co., Wickett	5,000	(*)	(*)
Burford Oil Co., Pecos City	6,000	3,000	3,500
Coltex Refining Co., Colorado	10,000	6,300	6,100
Concho Refining Co., San Angelo	300	100	200
Cosden Oil Co., Big Spring	15,000	5,000	5,000
Deer Oil Corp., Luling	2,500	(*)	(*)
Ewmo Oil Corp., Hawley	1,000	100	200
Grayburg Oil Co., San Antonio	6,000	500	700
Great West Refining Co., Big Spring	8,500	(*)	2,500
Gulf Refining Co., Sweetwater	5,000	5,000	5,000
Howard County Refining Co.	2,500	500	1,000
Humble Oil & Refining Co., San Antonio	5,000	1,400	1,400
Humble Oil & Refining Co., McCamey	15,000	(*)	(*)
Magnolia Petroleum Co., Luling	5,000	5,000	4,600
Marathon Oil Co., Del Rio	5,000	1,500	1,000
Misko Refineries, Inc., Laredo	1,500	675	850
Motor Fuel Products Co., Laredo	2,000	(*)	(*)
Pasotex Petroleum Co., El Paso	14,000	4,000	4,000
Pioneer Oil & Refining Co., Somerset	1,500	600	750
Richardson Refining Co., Big Spring	6,000	(*)	(*)
Rio Grande Oil Co., El Paso	5,000	2,500	3,000
San Angelo Refining Co., San Angelo	2,000	150	200
Signal Refining Co., Texon	500	500	....
The Texas Company, San Antonio	3,000	2,500	2,500
The Texas Company, El Paso	2,000	1,000	1,000
Tonkawa Petroleum Co., Pyote	5,000	(*)	1,500
Texas Mexican Oil & Refining Co., Laredo	600	400	500
Texas Petroleum Products Co., Somerset	1,500	450	460
Wickett Refining Co., Wickett	2,500	600	600
Total	139,900	41,775	47,060

*Shut down.

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS

(Plants which have been in operation during the past year)

Company and location—	Daily capacity	Runs Dec. 1	Runs Nov. 1
All State Refining Co., Thrall	3,000	950	(*)
American Refining Properties, Wichita Falls	6,000	(*)	(*)
Apache Refining Co., Sunray	4,000	500	600
Archer Refining Co., Megargel	1,500	400	650
Atlantic, Pacific & Gulf Refining Co., Wichita Falls	5,000	(*)	(*)
Carson, M. D., Brady	200	(*)	(*)
Continental Oil Co., Wichita Falls	6,000	3,000	2,000
Dale Oil & Refining Co., Electra	4,000	(*)	2,900
Deer Oil Corp., Brownwood	2,000	(*)	(*)
Dixon Creek Oil & Refining Co., Kings Mill	3,500	1,800	2,000
Echotex Refining Co., Echo	300	100	200
Empire Oil & Refining Co., Gainesville	5,000	3,000	3,000
Falls Refining Co., Wichita Falls	2,000	1,000	1,000
Gulf Refining Co., Fort Worth	10,000	5,800	6,000
Humble Oil & Refining Co., Breckenridge	2,000	(*)	(*)
Humble Oil & Refining Co., Chilton	4,000	1,200	1,300
Humble Oil & Refining Co., Boggy Creek	5,000	4,000	3,930
Iowa Park Producing & Refining Co., Iowa Park	2,500	300	(*)
Kent Refining Co., Minerva	2,000	300	(*)
Kent Refining Co., Angus	4,000	(*)	(*)
LaSalle Petroleum Co., Burkburnett (Noble)	3,500	(*)	(*)
Macmillan Petroleum Co., Isom	8,000	2,000	2,000
Magnolia Petroleum Co., Fort Worth, No. 1	12,000	4,000	4,200
Magnolia Petroleum Co., Fort Worth, No. 2	6,000	3,400	3,200
Magnolia Petroleum Co., Corsicana	5,000	4,500	4,500
Marathon Oil Co., Fort Worth	5,000	4,000	4,000
Muenster Refining Co., Muenster	300	50	50
Norgold Refining Co., Olney	200	50	50
Obar Refining Co., Coleman	300	150	200
Olney Oil & Refining Co., Olney	2,500	(*)	(*)
Oriental Oil Co., Dallas	5,000	1,500	1,500
Panhandle Refining Co., Wichita Falls	5,000	3,000	3,000
Petrolatum Refractionating Co., Pampa	6,500	6,500	6,000
Phillips Petroleum Co., Isom	18,000	15,000	16,000
Primrose Refining Co., Wichita Falls	2,500	2,000	2,500
Sinclair Refining Co., Fort Worth	5,000	4,000	4,000
Simms Oil Co., West Dallas	4,500	3,000	3,000
Southland Refining Co., Olney	1,000	(*)	(*)
Seymour Refining Co., Seymour	250	100	200
Star Refining & Producing Co., Fort Worth	1,500	800	1,000
Superior Refining Co., Tiffin	2,000	(*)	(*)
Taylor Refining Co., Taylor	6,000	1,000	1,200
Taxman Refining Co., Wichita Falls	2,500	2,500	(*)
The Texas Company, Dallas	16,000	13,000	15,000
The Texas Company, Amarillo	4,000	2,000	3,000
Tidal Western Refining Co., Burkburnett	3,000	(*)	(*)
Texas Pacific Coal & Oil Co., Fort Worth	3,000	2,000	2,000
Texas Pacific Coal & Oil Co., Caddo	1,000	500	800
Waggoner Refining Co., Electra	3,400	1,000	3,500
Wilcox Oil & Gas Co. (Pampa Refining Co.), Pampa	4,000	(*)	2,500
Young Refining Co., Archer City	250	(*)	(*)
Total	204,700	103,600	106,990

*Shut down.

Late Fields

(Continued from Page 24)

of 3,458 feet, where the hole started filling with water.

In the eastern part of Greenwood County, A. Markus and others' No. 1 King, NE cor. NW NE, Section 36-24-12, is spudding.

The only active operation in the Welch Pool, in the southeastern part of Rice County, is John Rogers' No. 2 Rainey, SW cor. NW SE, Section 3-21-6w. It was drilling at 3,225 feet after landing 6-inch casing at 3,160 feet.

Skelly Oil Co.'s No. 1 Miles, NE cor. Section 30-27-10w, a wildcat in Kingman County, is preparing to make a production test. A pipe line and loading rack is under construction from the well to a railroad plant near Cunningham. The well was completed almost a year ago but was never produced. The company plans to ship the oil to its refinery in Eldorado, Butler County.

Hinkle and others' No. 1 Sharpe, in Section 13-20-10w, Rice County, a few miles east of the Schurr Pool, is expected to make a production test during the week, preparatory to being put on regular production. A loading rack is under construction and the oil will be shipped out through the loading rack.

EAST TEXAS

FORT WORTH, Tex., Dec. 8.—Shasta Oil Co.'s No. 1 Hall, in the Gibson Survey, Upshur County, topped Austin chalk at minus 3,327 feet, 5 feet lower than Cranfill & Reynolds' potential producer 6 miles southwest which is standing shut down after testing a good showing of oil. Shasta's test is drilling ahead at 3,760 feet in chalk.

OKLAHOMA

Indian leases brought higher prices at the Five Civilized Tribes agency at Muskogee during the last week than they have done at past sales. The auction of leases brought an average of $2.34 compared to $1.40 per acre at the last previous sale. The top price was $35 an acre. Twenty of the 60 tracts offered were sold, the sales amounting to 1,442 acres located in the central, southern and eastern parts of the State.

Phillips Petroleum Co. and Shell Petroleum Corp.'s No. 1 Berg, NE cor. SW, Section 26-11-3w, Oklahoma City Field, is a new location. The lease was originally taken by the Shell Petroleum Corp. and an interest given to the Phillips Petroleum Co. for drilling a well.

Indian Territory Illuminating Oil Co.'s No. 1 South Glendale, NW cor., Section 26-11-3w, on the west side of the field, was bailed down and made 5,051 bbls. in four hours. It had an estimated 35,000,000 feet of gas a day.

The most active part of the Oklahoma City Field at the present time is in Section 22-11-3w, where new locations are being made. Indian Territory Illuminating Oil Co. owns most of the acreage in that district and is expected to start a drilling campaign in the near future. Anderson-Prichard Petroleum Corp. holds leases on several city blocks in Section 22-11-3w, and is expected to make a location soon. Practically every block in Section 22-11-3w is now under lease. Other new work in prospect inside the city limits includes four permits granted by the city zoning commission for new tests during the week. Anderson-Kerr was granted a permit to drill at 10 East Frisco Street, Skirvin & Whitfield have a permit for Block 19 of Phillips Meade Addition. Phillips Petroleum Co. has permits for tests in Blocks 8 and 18 of Walnut Grove Addition, Section 3-11-3w.

Clara Oil Co.'s No. 1 Springer, in Section 2-11-3w, in the north end of the Oklahoma City Field, was bailed in making 7,865 bbls. in 4 hours through a 3½-inch choke. The oil was found in the Wilcox sand at 6,248-6,320 feet.

Indian Territory Illuminating Oil Co.'s No. 1 Little, NE cor., Section 27-11-3w, flowed 7,105 bbls. of oil in 6 hours from the Wilcox sand at 6,475-6,592 feet.

The production of the Oklahoma City Field on December 7 was 195,600 bbls. from 155 wells.

In the southeastern part of the State G. J. Stumpff and others' No. 1 Harris, SW cor. NW SW, Section 14-9s-25, McCurtain County, was drilling at 1,365 feet, with a rotary rig. It is the first rotary test in the county and the owners expect to drill to 3,000 feet. The test is being drilled in the center of a block of 5,000 acres, and on a favorable geological report.

Other tests in McCurtain County include Prassel and others' No. 1 Wagoner, SE cor. NE, Section 5-8s-27, near the Arkansas state line, drilling at 300 feet with cable tools, to test the 2,000-foot level, and Ranchman and others' No. 1 Patterson, C SE SE, Section 7-6s-24, drilling 785 feet.

In Marshall County M. A. Neff and others' No. 5 Rutland, SW cor. NW NW SE, Section 30-5s-6, landed 6-inch casing on top of the sand at 631 feet. The pay sand was found at 631-37 feet, where it was pumping 35 bbls. a day. C. Davis and others' No. 1 Burge, SE cor. NE SE, Section 25-7s-5, was spudding. Everett and others' No. 1 Ayres, SE cor. NE, Section 14-7s-6, has 1,000,000 feet of gas at 927-40 feet and drilling at 1,000 feet.

OIL TARIFF SUPPORTED BY PRESIDENT BEATY

AUSTIN, Tex., Dec. 7.—Amos L. Beaty, president of the American Petroleum Institute, conferred with Gov. Ross S. Sterling and the Railroad Commission last week. Mr. Beaty said he told Governor Sterling that martial law in East Texas was justified and has proven a good thing for both the State and the industry. "I called to tender my services in any way possible to help in the condition of the oil industry," Mr. Beaty added. He said he did not come to place before Governor Sterling the decision of the oil conference at Tulsa for restricting production.

Following Mr. Beaty's visit, Attorney General Allred said that neither a request from Governor Sterling nor from Mr. Beaty would lead to a withdrawal of the antitrust suits. He said he had so notified Hubert Harrison, manager of the East Texas Chamber of Commerce.

Mr. Beaty would not discuss the Tulsa conference, at which he recommended a flat reduction of 500,000 bbls. in the nation's daily average oil production. He said that all the large producing states are suspicious of their neighbors and that in as much as he represents the entire oil industry, a statement pertaining to the amount each state should contribute in the conservation program might be construed as partisan.

Mr. Beaty said practically every major industry was a beneficiary of the protective system with the exception of oil. While results of a membership poll being taken by the American Petroleum Institute have not been learned, he said without doubt the industry favors enactment of a tariff.

"Favoritism should not exist, and certainly if any industry needs protection at this time, protection against dumping, it is the industry for which I am speaking. There is more involved than restraint upon importations from South America by companies owned in the United States.

"Cargoes of gasoline from Rumania are being thrown upon our already oversupplied and demoralized markets and I unhesitatingly say that we should have the benefits, and not alone the burdens, of the present system. Let us have a tariff on oil. It is an acute need, a crying emergency, and I hope Congress will act at once."

Before declaring his opinion on a tariff, Mr. Beaty said foreign countries had led the way, and pointed to Canada's tax of 2 cents a gallon on imported gasoline as an example.

Governor Sterling predicted that the Democrats, now in control of Congress, will place a tariff on the import of crude petroleum.

"I think there ought to be a tariff on oil, and hope to see them put it on," he declared.

Oils Turn Easy After Temporary Gain

General Selling Wave to Establish Losses for Income Tax Purposes Carries Oil Securities Downward. Upward Swing Expected

By A. E. Mockler
New York Bureau, The Oil and Gas Journal

NEW YORK, Dec. 7. — Following a general advance in oil stocks,a reactionary tendency developed with a general selling movement taking in all groups, and the market sagged off close to previous lows.

Considerable selling has developed in the general market on the part of traders and investors anxious to establish losses for income tax purposes, and this move has effectually put a stop to what was apparently the beginning of a sustained recovery in market prices for petroleum issues.

Reports from the oil industry continue along constructive lines, however, and considerable favorable sentiment has been built up for the oils, with traders looking for an early recovery in selling prices, and a steady upward move during the first quarter of the new year.

There is a general feeling both in trade and financial circles that the process of readjustment in the oil industry has been about completed, and with heavy inventory losses written off, the statistical position of the industry is quite favorable.

Oil stocks have been overdeflated in many instances, and notwithstanding reduced dividend payments by a number of large companies, returns on many oil stocks are still out of all proportion to the current selling prices of these shares.

Professional operators, who hitherto have never been partial to the oils, are showing an unwonted interest in the petroleum situation, indicating that the market for oil shares will shortly come in for a greater amount of attention from the professional element in the market.

South Penn Oil

South Penn Oil Co. has declared the regular quarterly dividend of 25 cents per share, payable December 31 to stock of record December 15.

S. W. Penn Pipe Line

South West Pennsylvania Pipe Line Co. has declared the regular quarterly dividend of $1 per share, payable December 31 to stock of record December 15.

Galena Oil

Stockholders of the Galena Oil Corp. have approved a reduction in the corporation's capital stock to $12,000 and ratified the sale of the company's assets, in part, to Valvoline Oil Co. and in part to E. W. Edwards. The cut in capital stock was voted to make possible the distribution of 8,000 shares of Valvoline Oil Co. stock which the company received for its assets. Distribution to stockholders of Galena will be on the basis of one share of Valvoline for each 34.691 shares of Galena Oil Corporation stock.

Mountain Producers

Mountain Producers Corp. has declared a dividend of 20 cents, payable January 2 to stock of record December 15.

In the three previous quarters this year the company paid quarterly dividends of 25 cents each.

Standard of Ohio

Standard Oil Co. of Ohio has declared the regular quarterly dividends of 62½ cents on the common, payable January 2 to stock of record December 15, and $1.25 on the preferred stock, payable January 15 to stock of record December 31.

Group No. 1 Oil

Group No. 1 Oil Corp. declared the regular quarterly dividend of $100, payable December 31 to stock of record December 10. The company had outstanding 2,048 shares of no-par capital stock at the end of last year, of which Texon Oil & Land Co., controlled by Continental Oil Co., held 1,467 shares.

McLeod Oil

McLeod Oil Co. of Calgary, Alberta, one of the pioneer companies in the Turner Valley Field, has declared an initial dividend of 5 cents a share, payable January 25 to shareholders of record January 5.

Plymouth Oil

Plymouth Oil Co. declared a dividend of 25 cents payable December 21 to stock of record December 9. In April, 1931, a similar payment was made.

Pacific Gas & Electric

Earnings of Pacific Gas & Electric Co. for the year 1931 are estimated at $2.75 a share on common, C. P. Cutten, attorney for the company, declared at a hearing on electric rates before the California Railroad Commission. If the $31,000,000 expansion program planned for 1932 is to be carried out, this return, Mr. Cutten declared, would be insufficient to maintain the company's credit at a proper level.

The company's return in the gas department is short from $1,000,000 to $1,500,000 annually of the amount needed to make adequate return on the new capital invested in this direction, he said. It is indicated that the company may seek to reopen the rate consideration on gas.

Hearing was continued to March 15, next, by Clyde L. Seavey, chairman of commission.

Lone Star Gas

Lone Star Gas Corp. has declared the regular quarterly dividend of 22 cents on the common stock, payable December 31 to stock of record December 15.

Pan American

Pan American Petroleum & Transport Co., owned by Standard Oil Co. of Indiana, declared a dividend of 40 cents on the common and common B stocks, payable January 20 to stock of record December 31. Dividends for the same amounts were paid on October 20 and July 20 this year.

Mexican Petroleum Co. of Delaware, owned by Pan American, declared the regular quarterly dividend of $2 on the preferred, payable January 20 to stock of record December 31.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Apr. 1	24.80	Aug. 5	20.80
Apr. 8	25.52	Aug. 12	21.00
Apr. 15	24.72	Aug. 19	24.25
Apr. 22	22.73	Aug. 26	23.26
Apr. 29	20.54	Sept. 2	22.30
May 6	20.74	Sept. 9	20.28
May 13	20.38	Sept. 16	18.30
May 20	19.25	Sept. 23	17.64
May 27	18.35	Sept. 30	15.83
June 3	18.00	Oct. 7	15.86
June 10	19.62	Oct. 14	16.43
June 17	19.23	Oct. 21	17.58
June 24	22.33	Oct. 28	16.80
July 1	22.32	Nov. 4	18.86
July 8	21.24	Nov. 11	18.76
July 15	19.79	Nov. 18	17.60
July 22	21.33	Nov. 25	16.68
July 29	20.68	Dec. 2	16.09

Tax Adjustments

Income and estate tax adjustments announced by the Bureau of Internal Revenue follow:

Ohio Oil Co., $381,615; Union des Petroles de Oklahoma of Chicago, $305,009; Oklahoma Producing & Refining Co. and subsidiaries, $277,027; Osage Homiuy Oil Co., $233,140; Oklahoma State Oil Co. and affiliated companies of Chicago, $149,392.

I. P. A. WILL DISCUSS A. P. I. RESOLUTIONS

FORT WORTH, Tex., Dec. 7.—Full discussion of the two-plank platform of the American Petroleum Institute, and the election of directors and officers will mark the annual meeting of the Independent Petroleum Association of Texas in Dallas on December 15.

Maj. J. R. Parten, president of the Woodley Petroleum Co., will lead the discussion on unitization, which the A.P.I. in Chicago has resolved to secure by state legislation.

Harry Pennington, San Antonio, will deliver a paper on the acreage content theory of oil ownership, which is proposed instead of that amount which an owner of land may produce therefrom. The discussion will be open to all members of the association.

A new board of directors of 60 will be elected which will elect a president to succeed Tom E. Cranfill, Dallas, who has announced he will not be a candidate to succeed himself; a secretary-treasurer to succeed B. F. Weekley, Fort Worth; three vice presidents to serve as chairmen of the producers division, the royalty owners division and the refiners and marketers division, respectively. Eight regional vice presidents to represent and reside in each of the districts will be elected; Panhandle, West Texas, North Texas, West Central Texas, East Texas, East Central Texas, Southwest Texas and the Gulf Coast.

GROSS PRODUCTION TAX

OKLAHOMA CITY, Okla., Dec. 7.—Gross production tax collections decreased from $1,088,648 in November last year to $228,666 in November, 1931, Frank Carter, state auditor, reported.

A total of $1,437,822 in excise taxes was collected by the state tax commission in November. Included were: Corporation licenses, $21,917; inheritance taxes, $5,428; income taxes, $6,366; motor carrier taxes, $13,964; automobile licenses, $28,201; game and fish licenses, $18,928; and tank car taxes, $5,426.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.
(Complete record week ending Nov. 28)

1931 High	1931 Low	Week ended Nov. 28 Sales	Week ended Nov. 28 High	Week ended Nov. 28 Low	Close Dec. 2	Stocks—	Outstanding capital	Par value	Div. rate	Payable or last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1	⅛	No sales	..	..	..	Atlantic Lobos	499,448	N.P.	....	5-28-30	..	..	..	..	1	⅛
16	6¼	100	10	10	8	Borne Scrymser	$1,000,000	$25	....	10-15-30	56½	44½	46½	25	25	11¼
56	39	200	40¼	40	..	Buckeye Pipe Line	$10,000,000	$50	$1Q	12-15-31	76	53	74½	55	69	39⅞
129½	88	100	94¼	94¼	..	Chesebrough Mfg.	$3,000,000	$25	$1Q‡	9-30-31	161	117	210	130	184⅞	104¼
3⅞	1⅝	6,400	2⅜	2⅛	2¼	Creole Petroleum	(sh) 5,977,872	N.P.	....	.....	17½	9½	11¾	5⅝	7⅞	3
39	20⅝	50	26½	26½	..	Cumberland Pipe Line	$1,500,000	$50	50cQ	6-15-31	114	67	75¾	40	65¾	20¼
36	19	No sales	..	..	..	Eureka Pipe Line	$5,000,000	$100	$1Q	11- 1-31	88	64½	70½	40	54¾	26
3	1	No sales	..	..	1⅛	Galena Signal Oil	$16,000,000	$100	....	.....	13	4¼	6½	3	7	2⅛
72	47¾	1,700	52½	50⅛	50½	Humble Oil & Refining	$74,103,300	$25	50cQ	1- 1-32	114¾	59½	128	74⅛	119	57¼
18¼	7⅝	2,500	10⅛	9¾	9¾	Imperial Oil of Canada (new)	(sh) 25,421,768	N.P.	12½cQ	12- 1-31	104	56¾	41	22	30	15
21⅛	5½	200	8½	8½	..	Indiana Pipe Line (new)	$3,000,000	$10	25cQ	8-15-31	91⅞	74⅜	41⅞	26	41	14⅛
15½	7⅜	8,600	10⅞	10	10⅜	International Petroleum (new)	(sh) 14,247,088	N.P.	25cQ	9-15-31	55	35	30⅜	15	24	11⅜
17½	8¼	No sales	..	..	9¼	National Transit	$6,362,500	$12.50	25cQ	9-15-31	32⅜	19⅜	25⅛	10⅛	22⅜	11⅛
14½	5⅞	400	8¾	8¼	..	New York Transit	$1,000,000	$10	25cQ	10-15-31	75	38½	17½	10	21⅜	10⅛
35½	20	50	33½	33½	32	Northern Pipe Line	$2,000,000	$50	$28A	7- 1-31	69	56½	63	41	54	28¾
15½	6	No sales	..	..	..	Penn Mex Fuel	$10,000,000	$25	50c	10-31-31	84	28	44½	20	32	12
16½	3¼	No sales	..	..	..	Solar Refining	$4,000,000	$25	....	12-20-29	..	..	50	20	33	4⅞
23⅞	12	600	13½	13	..	South Penn Oil	$30,000,000	$25	25cQ	12-31-31	71⅞	36¾	60¼	35⅛	45⅞	16⅛
17	9	No sales	..	..	11½	Southern Pipe Line	$1,000,000	$10	50eQ	9- 1-31	19	15	22½	13	20⅞	8⅝
42½	28	No sales	..	..	..	Southwest Pennsylvania Pipe Line	$1,750,000	$50	$1Q	12-31-31	102	70	70	60	64	32
38½	15⅞	20,100	20⅝	18⅝	18⅝	Standard Oil of Indiana	$348,175,069	$25	25cQ	9-15-31	95⅞	70⅞	63	45	59⅞	30
23⅝	13¼	4,600	16¾	15⅜	16¼	Standard Oil of Kentucky	$25,654,516	$10	40eQ	12-31-31	179¾	122¼	46⅞	29	40½	18⅝
36½	16½	No sales	..	..	..	Standard Oil of Nebraska	$4,649,225	$25	50eQ	12-21-31	54⅞	39⅞	50¼	40	48⅞	34⅝
62½	35	850	38¼	35⅜	36½	Standard Oil of Ohio	$14,000,000	$25	62½cQ	10- 1-31	134	71	129	60	108½	43¼
4½	2⅝	No sales	..	..	..	Swan-Finch Co.	$861,466	$25	....	1-15-29	23¼	16	18	10	10	4

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Nov. 28)

1931 High	1931 Low	Week ended Nov. 28 Sales	Week ended Nov. 28 High	Week ended Nov. 28 Low	Close Dec. 2	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1¾	⅛	4,000	⅜	⅜	⅜	American Maracaibo	(sh)	700,000	N.P.	....	.....	9½	3⅛	8⅝	1⅛	4½	⅛
16⅞	6¼	100	9⅛	9⅛	..	British American Oil Corp.	..	1,311,321	N.P.	20cQ	10- 1-31	55	32¾	62	7⅞	23	13⅜
2⅜	⅜	2,800	½	⅜	..	Carib Syndicate	..	$131,250	25c	....	.....	4½	3⅞	4⅞	1	2¾	⅝
20¾	5¼	47,200	7⅛	6⅝	6⅝	Cities Service	(sh)	24,290,359	N.P.	30cA§	11- 1-31	90⅞	54	68⅛	20	44¼	13
84¾	35⅜	1,800	58	56¾	55½	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	11- 1-31	103¼	94½	98¾	84	93⅞	78¼
½	⅛	No sales	..	..	..	Colombia Syndicate	..	$2,000,000	$1	....	.....	3¼	.76	2	½	¾	⅛
2¾	1¼	No sales	..	..	..	Consolidated Royal	..	$5,527,875	$10	5cQ	10-25-31	8⅞	6¼	11⅛	2½	5⅞	2
⅝	⅛	No sales	..	..	..	Crown Central	..	.....	....	....	.....	..	..	..	..	..	..
5	2	No sales	..	..	..	Darby Petroleum (new)	..	1,019,392	N.P.	....	10-15-30	33½	3¼	26	6½	21¾	4¼
6	1¾	200	2	2	..	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2¼	1	11	2	11	2
40⅛	25	No sales	..	..	..	Derby Oil & Refining pfd.	..	48,500	N.P.	....	.....	21⅛	7½	44	20¾	60	30
75½	38	2,700	48½	44⅜	44	Gulf Oil Corp.	(sh)	4,504,921	$25	37½cQ	10- 1-31	165	101⅛	209	115	166⅞	58½
⅝	1/16	4,400	1/16	¼	..	Intercontinental Petroleum	..	$5,682,000	$5	....	.....	3⅜	1	2⅞	⅜	1¾	⅜
1⅞	½	No sales	..	..	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	1¼	3⅝	1¼	3	⅞
1½	5/16	500	⅜	1/16	1/16	Leonard Oil & Development	..	$50,000,000	$25	....	.....	9⅜	5⅛	6⅛	1	4⅜	½
6¾	2¾	100	3⅛	3⅛	..	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	43⅞	20	38⅞	18	29	4⅞
25	7⅛	1,600	9¼	9	9	Lone Star Gas	(sh)	5,000,000	N.P.	22cQ	9-30-31	69⅛	48½	67⅞	28	55⅞	19⅝
½	⅛	3,400	⅛	⅛	..	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1⅞	½	1¼	½	½	⅛
5	2	1,000	3½	2	..	Margay Oil Corp.	..	160,000	N.P.	....	7-10-30	48½	32	38½	14	16	3
4⅞	1½	No sales	..	..	..	Mexico-Ohio Oil Co.	..	500,000	N.P.	....	.....	8	2¾	6⅜	2¼	7½	1¾
½	⅛	100	⅛	⅛	..	Mountain & Gulf	..	$4,000,000	$1	....	4-15-31	1⅜	.76	1½	½	¾	⅜
5⅞	2½	1,800	3¼	2⅞	..	Mountain Producers	..	$1,682,182	$10	25cQ	10- 1-31	28⅞	19½	22⅞	7	12⅛	3¾
1½	½	800	⅝	½	..	New Bradford Oil	..	$1,095,291	$5	....	4-15-31	5⅝	4¼	5	2½	3½	1⅛
3	¾	200	1	1	1	New Mexico and Arizona	..	$1,000,000	$1	....	.....	11⅞	7⅛	9⅜	2¼	7¼	1½
3¼	1	100	1⅝	1⅝	..	North Central Texas	(sh)	400,000	N.P.	....	9- 2-30	14¼	8½	18½	6⅛	11¼	2⅛
½	⅛	1,300	1/16	⅛	..	Pandem	(sh)	489,875	N.P.	....	.....	6	2⅛	3½	½	2½	¼
2	⅜	1,170	¾	⅝	..	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	15⅝	8½	10½	1⅞	4⅜	⅞
3⅛	½	No sales	..	..	¾	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	12⅞	4⅛	8½	1⅛	5⅝	1
3	1	No sales	..	..	..	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	12	4⅛	11	2	8⅝	2
1⅜	¼	No sales	..	..	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	7¼	5½	5⅞	1⅞	2½	½
7¾	3¾	2,000	4½	3⅞	3⅞	Salt Creek Producers	(sh)	1,496,859	$10	25c	11- 2-31	35	23⅛	25⅞	9	15¼	5¼
5¼	7/16	3,400	⅝	1/16	1/16	Sunray Oil	(sh)	1,163,185	$5	....	4-15-31	..	..	12	5⅝	10	2
1⅞	⅜	2,700	⅜	⅜	¼	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	9⅛	4¾	6½	1¾	4½	⅝
3½	1⅛	No sales	..	..	..	Woodley Petroleum	..	$500,000	$1	....	3-31-29	8¼	4⅞	9½	2	5	½
2¼	¼	200	½	½	..	Y Oil & Gas	..	100,000	N.P.	....	.....	8⅜	2⅛	2⅞	½	2½	⅜

*Ex-dividend. †Unit of trading less than 100 shares. ‡Payable monthly and monthly stock dividend of one-half per cent. §Paid in lieu of regular cash dividend of 2 per cent.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Nov. 28)

1931 High	1931 Low	Week ended Nov. 28 Sales	Week ended Nov. 28 High	Week ended Nov. 28 Low	Close Dec. 2	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
23	13	2,050	16	15½	15⅝	Amerada Corp.	(sh)	922,075	N.P.	50cQ	10-30-31	43⅞	27⅛	42⅝	17½	31½	16½
12⅜	2	300	2⅜	2⅛	2	American Republics Corp.	(sh)	209,180	N.P.	....	12-31-30	85	51⅛	64¾	12½	37	5⅛
31	9¼	270	10⅜	10½	..	Associated Oil	..	$57,260,300	$25	....	6-30-31	53⅜	37½	47¼	34½	51	30
23⅝	9½	9,500	12¼	11	11	Atlantic Refining	..	$66,763,775	$25	25cQ	9-15-31	66⅜	50	77⅞	30	51⅜	16⅝
14½	4¾	9,000	6¾	6	6	Barnsdall Corp. A	..	$56,546,600	$25	....	5-11-31	54	20	49⅛	20	34	8⅝
12	5	8,000	7½	6⅝	6⅝	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	..	..	47⅞	18	30½	7⅜
47	9⅝	5,400	15½	14¼	13⅞	General Asphalt	(sh)	413,333	N.P.	50cQ	9-15-31	94⅞	68	94¾	42¼	71½	22⅝
68½	19	4,800	25¼	21	21⅝	Houston Oil	..	$24,968,600	$100	....	10-17-30	167	79	109	26	116⅞	29¼
4⅝	1⅝	800	2	1⅞	1¾	Indian Refining	..	$12,564,070	$10	....	10- 1-30	39⅝	9	53	13⅛	17	2
4½	1⅜	800	2	1½	..	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	19¾	9⅜	18	7	12	3½
3¾	½	1,600	⅞	⅞	..	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	25½	12½	18½	5⅛	10⅜	1⅜
16¾	5	12,000	7¼	6	6	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	44½	25⅛	39⅞	22⅛	32	11
19½	6½	6,600	8¼	7½	7¼	Ohio Oil	(sh)	6,648,052	N.P.	....	3-14-31	84	58½	79⅞	64¼	32	16
35⅛	20	No sales	..	..	..	Pan American P. & T.	..	$50,084,700	$50	40c	10-20-31	50⅞	38¼	69	40½	46½	42
36½	20	No sales	..	..	23	Pan American P. & T. "B"	..	$121,110,650	$50	40c	10-20-31	59⅞	37⅜	69¼	40½	67¼	30
4¼	¾	100	1	1	..	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	21¾	11½	15¼	3	12¾	1⅜
20⅛	9½	No sales	..	..	..	Panhandle P. & R. pfd.	..	$2,564,400	$100	....	.....	108	70	76	47½	20	47½
16⅝	4⅜	15,200	7	6	6⅛	Phillips Petroleum	(sh)	2,593,075	N.P.	....	1- 2-31	53⅞	35¼	47	24¼	44⅜	11½
1½	⅜	200	½	⅜	⅜	Pierce Oil Corp.	..	$29,622,831	$25	....	.....	5¼	½	3⅜	1	2½	½
3⅜	⅞	3,100	1⅜	1	1	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7	3½	5⅞	½	7⅛	1⅛
20⅜	5½	2,400	7⅝	7¼	6¾	Prairie Oil & Gas	..	$60,848,000	$25	....	3-31-31	68	46	65⅝	40½	54	11¼
26½	7⅝	4,900	9½	8⅛	8¼	Prairie Pipe Line	..	$101,250,000	$25	....	6-30-31	280	172	65	45	60	16⅝
6	1½	400	1½	1½	1½	Producers & Refiners	..	$37,438,950	$50	....	9-15-23	29⅞	16	25⅞	4	11⅞	1
16	4¼	30	5	5	..	Producers & Refiners pfd.	..	$2,845,350	$50	....	5- 4-25	49⅝	41	46¾	25½	40	11½
11⅞	5	4,100	5¾	5½	5⅝	Pure Oil	..	$75,959,250	$25	....	9- 1-30	31⅝	19	30¾	20	27¼	7⅝
6⅜	⅞	2,600	1	⅞	⅞	Richfield Oil (new)	..	$52,410,875	N.P.	....	.....	56	23	49⅝	20	9¾	4⅛
10¼	1¼	18,900	2⅜	1¼	1⅜	Rio Grande Oil	(sh)	1,236,270	N.P.	....	7-25-30	37½	32	42½	15	25¾	5
42⅝	13½	3,800	17	15⅝	15¾	Royal Dutch N. Y.	(sh)	611,303	....	$0.938	8- 4-31	64	44⅝	64	43⅛	56½	36⅞
20¾	5½	8,600	8⅝	7¼	7⅝	Seaboard Oil of Delaware	(sh)	1,244,383	N.P.	....	10- 1-24	72	4⅝	59⅜	8¼	37	9¾
34	9¾	90	10⅛	10	..	Shell Transport & Trading Co.	..	£23,985,000	£1	$0.966	7- 6-31	47⅞	41⅜	51½	40⅝	48⅜	26
10¼	3¼	7,300	4½	4⅛	4	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	39¼	23¼	31¾	19	25½	5¼
11	4¾	1,800	5½	5⅛	5⅛	Simms Petroleum	..	$8,353,620	$20	....	9-15-30	27½	18⅛	40⅛	15	37	5⅝
15⅞	5½	23,100	7¼	6⅜	6¼	Sinclair Consolidated	(sh)	5,500,000	N.P.	....	4-15-31	46¾	17⅜	45	21	32	9¾
103	77	100	77	77	..	Sinclair Consolidated pfd.	..	$16,025,250	$100	$2Q	11-14-31	110	102½	111	103	112¼	86
12⅞	3⅛	1,100	4¼	4	3⅞	Skelly Oil	..	$27,441,250	$25	....	12-15-30	42⅝	25	40½	28	12	10⅛
21	11⅞	30,725	13⅛	11⅞	11⅝	Socony-Vacuum	(sh)	31,923,072	$25	40cQ	9-15-31	..	..	..	..	..	..
51¾	28⅛	29,800	32¾	30	30⅛	Standard of California	(sh)	12,594,098	N.P.	62½cQ	12-15-31	80	63	81⅞	51½	75	42½
19	8¼	1,000	11¾	11¼	..	Standard of Kansas	..	$8,000,000	$25	....	3-16-31	37¾	15	33¾	18	49	14⅜
52½	28¼	48,000	34	31¾	31⅞	Standard Oil of New Jersey	..	$634,999,200	$25	25cQ§	9-15-31	59⅝	37¾	83	49	84⅞	32½
45¼	26¾	200	31	30¾	..	Sun Oil	(sh)	1,416,869	N.P.	25cQ	9-15-31	77	31½	68⅜	55	70	39
1¾	½	1,000	½	½	⅝	Superior Oil Corp.	(sh)	766,979	N.P.	....	12-20-30	..	..	24	5¼	9⅜	¾
36¼	15	24,200	18½	16⅝	16¾	The Texas Corporation	..	$246,204,900	$25	50cQ	10- 1-31	74¾	50	71⅞	50	60½	28¼
6½	2½	1,200	3	2⅞	2¾	Texas Pacific Coal & Oil Co.	..	$9,304,890	$10	....	12-31-29	26⅝	12⅛	23⅞	9½	14½	4
18	9⅞	No sales	..	..	..	Tide Water Oil	(sh)	2,191,759	N.P.	....	6-30-31	41½	19⅝	40	14	31	13
83	35	500	44	41	..	Tide Water Oil pfd.	(sh)	19,947,000	N.P.	$1.25Q	11-16-31	100⅛	86	97½	85⅛	94⅞	71
9	3½	9,100	3¾	3½	3½	Tide Water Associated	(sh)	5,560,424	N.P.	....	2-16-31	25	14¾	23½	10	17¾	5⅞
68	20½	1,000	30	26½	29¼	Tide Water Associated pfd.	..	$73,284,500	....	$1.50Q	10- 1-31	..	..	90⅞	74⅛	89¾	55
26⅝	11¾	4,200	16¼	15¼	15⅛	Union Oil of California	..	$104,342,375	$25	50cQ	11-10-31	58	42⅜	57	42⅛	50	10⅛
25⅛	18½	500	19	18½	18⅝	Union Tank Car	(sh)	1,254,048	$100	40cQ	12- 1-31	128⅛	110	163¾	121⅞	38½	23
8⅜	1	100	2⅛	2⅛	*2	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	44⅞	26	42⅞	15	27	4¼
9⅜	3	100	4½	4½	*5	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	29¾	12⅞	21	6½

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus extra dividend of 25 cents.

In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

PROSPECTING FOR GAS IN THE QUEBEC AREA

(Continued from Page 17)

closely parallels the St. Lawrence-Champlain fault at a distance of 3 or 4 miles to the north. In working out the structural geology of this district, there has been a hesitancy to rely to any great extent on surface geology as an indication of the subsurface contours of the underlying Trenton limestone.

At the time when regional stresses resulted in folding in the vicinity of the St. Lawrence-Champlain fault, the Trenton, as the controlling competent strata underlying a succession of weaker shales, transmitted pressure in the direction of the bedding, and would be expected to show less fracturing and shearing than would be found in the above lying shales

Other Factors

There are other factors entering into an interpretation of the structural geology, which still further complicate the situation, and make it difficult to select a drill location with any degree of confidence. To what extent faulting has affected the structural basin north of the Deschambeault anticline is still unknown. The St. Lawrence-Champlain fault was been interpreted as a low-angle overthrust having a vertical displacement of at least 3,000 feet. Other fault planes have been detected to a distance of 10 miles to the north, and evidence of one fault has recently been found just south of the St. Lawrence River about 25 miles north of the St. Lawrence-Champlain fault.

There appears to be a series of two or three anticlines along the southern margin of the structural basin. These folds may not be continuous, but may be composed of a series of shorter axes arranged en echelon. There is evidence of a more or less continuous structural terrace along the north side of the basin and closely parallel to the south shore of the St. Lawrence River, at a distance of 1 or 2 miles. There may also be one or two minor folds striking northeast near the center of the structural basin. The axis of this basin or geosyncline may have a slight plunge to the southwest. One of the earlier wells, which was drilled in this section, cut through 1,600 feet of Queenston. The two wells drilled by the Hope Engineering Co., near the southwest extremity of the basin, have cut through 900 feet of Queenston shales. So little was known of the areal geology of this section, before drilling was started, that the Hope Engineering locations were assumed to be outside the area of, Queenston formation, which marks the central part of the St. Lawrence lowland trough.

Between 1885 and 1914, at least 23 wells have been drilled for gas and oil within the St. Lawrence lowland, and in practically all cases, well logs are missing. Reports of early work are limited to a description of the location and mention of small gas flows. Four of the holes were drilled near the town of Vercheres, seven near St. Hyacinthe, at least two near St. Roch in Richelieu County, a 3,000-foot well near the village of Yamaska, and nine in the vicinity of St. Gregoire, including the Trudel well.

Detailed accounts of these activities have been published by the Quebec Bureau of Mines, in Reports for 1910 and 1914. The 1929 Report of the Quebec Bureau of Mines includes a general discussion of the geology of the district by Dr. William A. Parks. In 1930, Doctor Parks continued his field work in the district and his detailed report is expected to be published by the Quebec Bureau of Mines within the next few weeks. The author has published two recent papers on developments in this district and these may be referred to for further details. (Prospects for Natural Gas in the St. Lawrence Lowland. Transactions of the Canadian Institute of Mining and Metallurgy, 1930; Natural Gas in Prospect for the Province of Quebec, Gas Age Record, September 26, 1931.)

Evidence for Drilling

When the Hope Engineering Co. began drilling operations in an area of very limited rock exposures, its policy was explained as an effort to test the possibilities of shale gas within the Lorraine and Utica formations. Gas accumulations which might occur within these shales were expected to be independent of structure, and accordingly, would not be associated with any direct field evidence. Drilling delays have so far made it impossible to throw any light on the success or failure of the "shale gas" theory, as applying to the St. Lawrence lowland.

Drilling in the section, now being explored by the Hope Engineering Co., is under a double handicap of limited outcrops and widespread occurrence of intrusive dikes. The logs that have been preserved from former drilling operations in this locality, all show the presence of igneous rock varying in thickness from 5 to 100 feet. These intrusives probably had their origin during the Siluro-Devonian period.

The volcanic activity of that time is now represented by several volcanic plugs, which rise sharply as low round hills, over the flat surface of the St. Lawrence Valley, and cut across the western end of the structural basin south of Montreal. These prominent topographic features are known as the Monteregian Hills, which extend southeast from Montreal towards the Vermont border.

The well locations, where the South Shore Oil Lands, Ltd., and the Seaboard Oil Co. are now drilling, are 50 miles or more east of the nearest volcanic plug, and little fear is held of cutting igneous dikes in this section of the St. Lawrence lowland. The structure selected by the Seaboard company was indicated by the seismic survey, as being a dome or short anticline striking northeast with closure on all sides. This location is near the synclinal axis of the structural trough.

Holdings Geologized

Although the Alberta Gas & Fuel Co. has not yet announced drilling plans, detailed geological field work has been carried on over a large part of its holdings. A seismic survey was also made over a portion of the Alberta Gas & Fuel Co.'s properties. Up to the present time, this is about the extent of exploratory work obtained in any part of the St. Lawrence lowland, since inconclusive results have so far been obtained from drilling operations undertaken by the three companies mentioned. Favorable structures have been outlined and defined when it has been possible to map surface outcrops. Unfortunately, dependable surface outcrops are absent over a large part of this area, and there is also the possibility that surface indications are not conformable with underlying formations. Geophysical investigations have been applied over an area of possibly 150,000 acres in an effort to outline some of the more prominent subsurface structures.

South Shore Oil Land's No. 1 test is located near the axis of an asymetric anticline, located a short distance south of the contact between the Queenston and Lorraine formations, and about 5 miles north of the St. Lawrence-Champlain fault. The north limb of this fold is represented by a fairly continuous outcrop of the Lorraine shales along the banks of the Pontgrave River. A concealed interval obscures the axial section of this fold. The evidence between the last south dip and the north reversal dips is about 500 feet. A fault occurs within the syncline to the south, which may represent a serious factor in the persistence of the surface structure at depth. In an effort to gain additional subsurface information bearing on this well location, a seismic survey was made over the small surrounding area. The profiles, constructed on the basis of seismic data, suggested no changes at depth.

Possible Reservoir Rocks

The methods being followed in exploring the St. Lawrence lowland have been applied towards the development of anticlines represented either geologically or by geophysical means. The field has so far been fortunate in coming under the direct study of several competent geologists, who have had broad experience in interpreting oil geology over a wide range of fields in North and South America. In addition to those already mentioned, may be included Sidney Paige, R. S. McFarland and A. Faison Dixon. Preliminary field work, which contributed very important information in the early stages of exploration, was carried on by Heber Bambrick, in the interests of Louis Brochu. R. B. Anderson has been responsible for geological field work on the property held by the Hope Engineering Co.

In the early stages of the work, those interested entered into an agreement for the interchange of geological data, and this fact has already contributed to a more thorough understanding of the stratigraphy and structural features of the St. Lawrence Valley gas field. In spite of this co-operative work, it is still difficult to determine any key beds below the color contact between the Queenston red shales and the gray limey shales of the Lorraine formation. Very little has been contributed to the paleontology of the district and much more work remains to be done on this problem in connection with the drilling now in process.

The problem of reservoir rocks is still an unknown quantity which can only be explained by drilling. So far as our present information goes, no evidence of dolomitization has been found within the Trenton limestone, east of the Frontenac axis in Ontario, and it is therefore none too encouraging to expect that the necessary porosity will be developed within the Trenton formation in Quebec. This, however, is one of the uncertain points which will soon have new light thrown on it. Where the Trenton is found outcropping along both the north and south side of the structural basin, it has been subject to considerable deformation through faulting and exhibits the characteristics of a hard crystalline limestone. Some attention has been given to the possibility of dolomitization and porosity at a distance of 10 or 15 miles inside the Trenton outcrops at relatively deep horizons within the basin, where the

COURT DECISIONS ON MARTIAL LAW CITED BY BRIG. GENERAL WOLTERS

Brig. Gen. Jacob F. Wolters, Texas National Guard, commander under martial law of the East Texas oil field, addressed the annual convention of the National Guard Association, comprised of delegates from all the states, held at New Orleans, La., last week, on martial law. He said in part:

"It is well known that martial law is an act of the chief executive of the nation or state whereby he calls upon the military forces to repel an invasion, suppress an insurrection, quell a riot, maintain the peace, preserve order and enforce and uphold the majesty of the law. While in the performance of this duty, the President or governor, acting by and through the officer in command of the military forces in the field, may do or cause to be done any and every act necessary or believed to be necessary in order to meet the existing emergencies.

"There is no usurpation of the civil authority by the military. The military is being used to maintain or restore the supremacy of civil authority. This force is being used by the President or by the governor, who is the chief civil officer of the nation or state, as well as commander-in-chief of military forces. During the emergency the citizens in the military zone may have to forego the privilege of exercising certain constitutional rights. These rights are not destroyed by the military. The exercise of these rights has already been suspended by the acts of unlawful agencies, to curb which martial law was declared.

"Martial law is the exercise, by constitutional authority and in the manner authorized by the Constitution, of the supreme police power of the nation or of the state, as the case may be. We are all familiar with the extent and authority of the police power of the government, whether national or state, in time of peace. In time of war, invasions and insurrections, and when the ordinary civil powers have become powerless and impotent, the extent of the police power exercised and enforced by the military arm of our Government must necessarily, as the courts have said, be the will of the commanding officer, acting in pursuance of orders of his superior, the President of the nation or the governor of the state. No clearer statement of the law covering this subject than the following language used by the supreme court of West Virginia in the Brown case, supra. There the court said:

" 'The guaranties of supremacy of the civil law, trial by the civil courts and the operation of the writ of habeas corpus should be read and interpreted so as to harmonize with the retention in the executive and legislative departments of power necessary to maintain the existence of such guaranties themselves. It is reasonable and logical. Otherwise the whole scheme of government may fail. So interpreted, they have wide scope and accomplish their obvious purpose. The attempt to extend them further would be futile and result in their own destruction. The interruption is of short duration. It is only while military government is used as an instrument of warfare that the commander's will is law. New Orleans vs. Steamship Co., 20 Wall., 387.'

"The governor's decision as to the necessity of martial law is final and cannot be controverted. Justice Holmes, who wrote the opinion of the court in Meyer vs. Peabody, 212 U. S. 78, said:

" 'It is admitted, as it must be, that the governor's declaration that a state of insurrection existed is conclusive of that fact.'

"In State vs. Brown, 71 W. Va., 510, the supreme court of West Virginia, in discussing this question, used the following language:

" 'It seems to be conceded that if the governor has the power to declare a state of war, his action in doing so is not reviewable by the courts. Of the correctness of this view, we have no doubt. The function belongs to the executive and legislative departments of the government, and is beyond the jurisdiction and powers of the courts. There is room for speculation, of course, as to the consequences of an arbitrary exercise of this high sovereign power, but the people, in the adoption of their constitution, may well be supposed to have proceeded upon a well grounded presumption against any such action, and assumed that the evil likely to flow from an attempt to hamper and restrain the sovereign power in this respect might largely outweigh such advantages as could be obtained therefrom. We are not to be understood as saying there would be a lack of remedy in such case. The sovereign power rests in the people and may be exerted through the legislature to the extent of the impeachment and removal from office of a governor for acts of usurpation and other abuses of power.'

"When the governor declares martial law in a district that means that complete control is handed to the military commander, who will exercise his judgment how far he will take over the functions and supersede the activities of the civil authorities, and to what extent, if any, he will restrict the ordinary activities of the people. Necessity must be his guide. He should do no unnecessary thing that will cause hardship and inconvenience to the people. But necessity requiring action, he must not hesitate to do all lawful things to meet the situation."

Palaeozoic rocks occur in a comparatively undisturbed state.

Porous beds of lime and sand are found distributed through the lower members of the Lorraine formation, interbedded with fairly hard impervious shales. Some of these intercolated limestones contain from 3 to 4 per cent magnesia. With the report of the Trudel well showing production from a horizon about 475 feet in the Lorraine, storage possibilities within this formation must be regarded as encouraging.

There is a possibility that porous lenses will occur unrelated to a surface structure, and reservoir conditions may also be controlled by local fracturing. This consideration makes it evident that considerable drilling must be done before any definite knowledge can be gained of subsurface conditions.

Land Tenure

Prospecting for gas and oil in the province of Quebec has been practically unknown since the ill-fated search for oil in the Gaspe Field before 1900, when English interests spent more than $1,000,000 in drilling, and not 1 cent for geology—so far as the records show. An Order-in-Council, passed by the Quebec government last year, established certain regulations controlling tenure of oil and gas leases, as a result of staking activity which began late in 1929.

Except for a restricted area, mineral lands including oil and gas belong to the provincial government. The landowner has no right to anything below the surface, unless he stakes out a claim for mineral lands on his own property. Claims staked for oil and gas cover an area of 2 square miles each. Before staking is started, the prospector must obtain a miner's certificate from the Quebec Bureau of Mines, at a price of $10. A second $10 fee must be paid to have the claim officially recorded. An annual tax of 10 cents per acre must be paid for the first two years. An annual expenditure in development work (geological investigation, drilling and administration expenses) amounting to $1 per acre per year, is also stipulated. At the end of the second year, leases which have produced an appreciable amount of oil or gas, may be held on a long term lease by the operator, on paying an annual tax of 25 cents per acre. The government collects no royalty or revenue on production other than the usual income tax on net profits.

Practically all of the geologically favorable area in the St. Lawrence lowland was staked by Louis Brochu, and various blocks of his leases were subsequently transferred in the name of the respective operators mentioned above. The land is now in good standing for a period of another year and within that time it is expected that some definite information will be available as to the commercial possibilities of the St. Lawrence Valley gas field.

Drilling Regulations

Regulations covering drilling operations were issued by the Quebec Bureau of Mines in October of this year, providing for strict supervision of drilling development by government inspectors. Full particulars must be submitted to the bureau of mines on the location of any proposed well, the type of equipment to be used, and the date when drilling is to be started. No well can be drilled within 200 feet of a property boundary. A complete set of samples must be submitted to the bureau of mines, and samples of all water, oil and gas encountered, are to be submitted for analysis. Water shutoff is required in all cases to avoid flooding of oil or gas horizons. Well samples are also being submitted to the Geological Survey at Ottawa for analysis, and accurate records are being kept by the operators now actively engaged in drilling.

A free exchange of samples is being maintained among the geologists directly interested in the three wells, in accordance with the same spirit of co-operation that was put into effect when field work was first started more than a year ago. This is particularly true of the results of extensive field work carried out by Heber Bambrick, in the interests of Louis Brochu and the results of detailed work done by Linn M. Farish. Both of these men have done full justice to the well-known dictum, "Do your geology with a small tooth comb and walk your beds." The chief information which is now lacking is a series of structure tests with core drills. The three wells now drilling are using standard cable tools, driven by 40 and 50-horsepower Franklin gas engines.

The Hope Engineering Co. and the South Shore Oil Lands have put up 86-foot steel derricks, while the Seaboard Oil Co. is using a 96-foot derrick, and starting with an 18-inch hole. The first two wells began with a hole 15½ inches in diameter. Glacial till and recent marine sand and clay reach a thickness of from 75 to 225 feet below the surface. No water has so far been found below the surface of the bedrock.

SINCLAIR COMPLETES REFINERY PROGRAM

(Continued from Page 18)

In the recent announcements of the Sinclair, White Eagle, Standard of Indiana and other companies, the starting and accelerating qualities of the new motor fuels are stressed as well as knock rating. Companies who have installed new cracking equipment or rebuilt units already in operation have invariably found that they have large yields of the most volatile fractions of motor fuels. This is obtained both in high pressure cracking and the low pressure cracking of the vapor phase type. This has necessitated the installation of large gas recovery and rectification equipment at refineries. In a well balanced crude topping and cracking operation where emphasis is placed on high octane ratings in finished motor fuels, the gasoline obtained from the gas recovery and stabilizations units amounts to several gallons per barrel of crude throughput. This high yield of the most volatile fractions enables refiners to blend a gasoline motor fuel of exceptionally low distillation range, especially the initial and 10 per cent points.

MAY DELAY THE HAIFA BRANCH OF IRAQ LINE

(Continued from Page 15)

although of course there is still considerable time for the interested companies to tackle field problems before the line will be ready to run crude.

Completion of the Iraq pipe line project, it is felt in American oil circles, will be a definite blow to American and British companies which now largely supply French markets with gasoline and other petroleum products. Not only will the French market now held by these companies be largely lost to them in many cases, but it is considered probable that once the French refining industry hits its real stride, France will have exportable surpluses of refined products, and will be a competitor with other sellers in world markets.

Standard Oil Co. (New Jersey) which already enjoys a foremost place in world petroleum circles, will continue in favorable position with respect to the French markets even after the refineries in that country are running on crude from Iraq fields. The New Jersey Standard group, in association with Gulf Oil Corp. and Altantic Refining Co., is affiliated with French petroleum interests and the French government in the construction of a huge refinery near Marseilles which will supply a large part of the refined petroleum requirements of France upon completion. Other American companies are also established in France on a smaller scale, and will be in position to protect their French investments in later years.

Technical details surrounding the construction of the Iraq line are not yet officially known, although the British and French forks of the line will be of 10 or 12-inch pipe, with pumping stations located approximately every 50 miles along the line over the greater part of the system, with the final laps of the line not requiring any boosting. In fact, at the Tripoli end of the line, hydrostatic pressure over the final links of the line will be so great that it is planned to use but 8-inch pipe in the final stretch of the line. Parts of the line will have to surmount inclines of approximately 1,000 feet at various points along the route, with a rise of more than 3,000 feet just before reaching the sea coast. Thus far, however, there have been no intimations as to what type of equipment will be used at the booster stations along the line, nor is there anything official regarding the amount of storage to be constructed at the line's two terminals. The only material for which bids have been actually called for as yet, it is reported here, involves certain types of structural steel to be used in the construction of some of the buildings to be erected in connection with the line's construction, although press reports from Paris several months ago stated that orders had been let for several million dollars worth of pipe and other material.

BIG DEVELOPMENT IN KANSAS COMING

(Continued from Page 14)

was estimated at 150 bbls. a day from Siliceous lime at 3,825-40 feet.

The wells in the Sellens Pool, in the southeastern part of Russell County, are producing from the Siliceous lime at 3,300 feet. The wells ranged from 100 to 650 bbls. The field was opened in 1930.

Hilligoss and others' No. 1 Isern, SW cor. SE NE Section 12-20-11w, Barton County, is estimated from 500 to 700 bbls. a day from the Siliceous lime at 3,313-29 feet, but has not been completed.

A recent completion, not shown on the map, is Derby Oil Co. and Alladin Petroleum Co.'s No. 1, in Section 22-16-10w, located 1,320 feet north and 330 feet west of the well indicated on the map as "Palmer-Gypsy, Stroddenberg area," in Ellsworth County. The new well swabbed 75 bbls. of oil the first hour without lowering the column of oil. The pay was found at 3,347-65 feet.

The area is credited with a potential production of 20,000 bbls. a day but with the exception of about 2,100 bbls. being taken from the Schurr or Raymond Pool, and 320 bbls. a day from the Midwest Exploration Co.'s well in Stafford County, the wells have no market. The Prairie Pipe Line Co. has a line into the Schurr-Raymond Pool and the Stanolind Crude Oil Purchasing Co. is buying oil in that pool. It is expected that purchasers and shippers will enter the field early in 1932.

Owners of leases in the big field are anxious to further test the territory, but desire to do it on a conservative basis in these days of low-priced oil and limited market demand.

The gravity of the oil ranges from 40 to 45 degrees A.P.I.

A Unitized Block

An interesting fact in regard to the well of the Midwest Exploration Co. in Stafford County is that 1,600 acres surrounding it have been made into a unit development, the companies taking part in the unit agreeing to the drilling of one well to each 40 acres. The Midwest Exploration Co. owns 70 per cent of the block; Atlantic Oil Producing Co. 10 per cent, F. C. Harrington 5 per cent, Sunray Oil Co. 5 per cent, J. A. Hull Co. 5 per cent and the Eason Oil Co. 5 per cent. The acreage consists of the north half of Section 1-23-12w, all of Section 36-22-12w, west half of Section 31-22-12w and the northeast quarter of Section 31-22-12w.

The Schurr-Raymond Pool in Rice County was opened 18 months ago and now has 12 wells. The operating companies with producing wells are Slick, Pryor & Lockhart, Inc.; Phillips Petroleum Co., Producers & Refiners Corp., The Texas Company and the Vickers Petroleum Co. The dozen wells are credited with an average potential of 946 bbls. per well ranging from 100 bbls. up to 1,380 bbls.

R. T. COUCH DIES

R. T. Couch, 49, veteran oil man of Wichita Falls, Tex., who drilled one of the first wells in the Burkburnett Field, died in Fort Worth on November 30.

INCREASE IN ACTIVE OPERATIONS INDICATED BY NOVEMBER REPORT

An increase of 229 in completed wells is noted in the report of operations in the fields east of California in November, but the initial production fell off 79,322 bbls. There were 232 dry and abandoned wells, an increase of 46, and an increase of 19 in gas wells. Some of the abandonments were old shut-down drilling wells that are regarded as dry although they have not yet been definitely admitted by their owners to be failures. Field operations in November were on a greater scale than in October. The number of rigs and wells drilling at the close of November appear by the report to have fallen off 112, but as the completions increased by 229, it indicates that in the course of the month there were 117 more active operations than in October.

Following is the summarized report:

SUMMARY OF ALL FIELDS

	Wells Completed			
	Comp.	Prod.	Dry	Gas
Eastern	212	456	24	62
Central Ohio	55	305	13	29
Lima	13	33	2	8
Indiana	19	80	11	4
Michigan	13	11,975	3	2
Kentucky	33	1,039	5	9
Illinois	3	16	1	0
Kansas	31	12,845	8	4
Oklahoma	54	32,321	19	9
North Central Texas	48	2,145	26	4
E. Cent. and E. Tex.	566	68,979	13	0
East Texas gas field	4	0	4	0
West Texas	14	8,802	1	0
Panhandle Texas	8	165	0	7
Gulf Coast	45	25,170	17	0
Southwest Texas	57	10,225	36	7
North Louisiana	13	250	9	3
Arkansas	4	50	3	0
Mississippi	9	0	4	5
Montana	33	0	27	6
Wyoming	6	670	1	2
Colorado	3	0	3	0
New Mexico	6	2,757	3	0
Total November	1,249	178,283	232	161
Total October	1,020	257,605	186	142
Difference	229	79,322	46	19

The initial production of the various pools in the East Texas area represents only the first hour's or fractional part of an hour's production, as the wells are permitted to flow only a short time in conformance with the State's curtailment orders, or for other reasons. In some instances no gauge whatever is taken on the initial brief flow of the wells. None of the oil companies is keeping even an estimate on potential initial production in the East Texas Field.

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Eastern	49	193	242
Central Ohio	28	97	125
Lima	3	18	21
Indiana	4	60	64
Michigan	70	86	156
Kentucky	10	77	87
Missouri	0	1	1
Tennessee	0	14	14
Illinois	1	16	17
Kansas	28	114	142
Oklahoma	51	230	281
North Central Texas	49	113	162
E. Central and E. Texas	265	269	534
East Texas gas field	4	34	38
West Texas	12	78	90
Panhandle Texas	14	41	55
Gulf Coast	5	104	109
Southwest Texas	13	92	105
North Louisiana	12	58	70
Arkansas	9	27	36
Mississippi	11	18	29
Alabama	2	3	5
Montana	19	52	71
Wyoming	7	72	79
Colorado	14	72	86
New Mexico	6	52	58
Utah	1	19	20
Total November	687	2,010	2,697
Total October	644	2,165	2,809
Difference	43	155	112

RUMANIAN AND GROUP 3 TRANSPORTATION COSTS

(Continued from Page 83)

tanker which brought the Rumanian gasoline to Baltimore is scheduled to take on a load of American refined products from a Gulf port later on this month for shipment to an Adriatic port, presumably in Italy. Under these conditions, the owners of the vessels would prefer to bring a paying cargo on the run to the United States, whatever the freight derived, to sending their tanker to the Gulf in ballast. Other tanker owners with contracts for moving petroleum from the Gulf or nearby points to Europe, whose vessels may be in the Black Sea, probably would be in the same frame of mind with regard to moving Rumanian gasoline or other products to the United States.

Future Plans Not Known

Nothing definite is known regarding the plans for further shipments of Rumanian gasoline to the United States, beyond the fact that another cargo of the Rumanian motor fuel, on the tanker Ranja, is now afloat, with either Baltimore or Philadelphia as its destination. Closing of the St. Lawrence waterways by freezing has forced the movement of the Rumanian oil to East Coast ports, rather than via Montreal, through which port the initial shipment moved.

If regular shipments of the Rumanian product to Detroit, over a period of months, are contemplated, however, the handlers of the Rumanian gasoline will find themselves confronted with higher costs early next year, the tank car gasoline rate being scheduled to advance in February.

Importation of this material has given impetus to the campaign for an import duty on gasoline and other petroleum products, and future developments along these lines will be watched by the large integrated companies now carrying on a regular import movement of crude and refined products from Mexico and Central American countries where they have production and refining facilities.

THE OIL MAN'S CALENDAR

DECEMBER

7-12—Atlantic City, N. J., trade show, motor and equipment—National Standard Parts Association.

9-11—Atlantic City, N. J., American Institute of Chemcial Engineers.

9-11 — Omaha, Neb., Nebraska Petroleum Marketers, Hotel Paxton.

11-12—Drumright, Okla. Fall Meeting, Mid-Continent District, A.P.I. Division of Production.

28-31—Tulsa, Okla., Geological Society of America, Mayo Hotel.

1932

JANUARY

9-15—Detroit, Mich., convention and road show, American Road Builders' Association, Airport Building.

9-16—New York, National Automobile Show.

11-12—Fargo, N. D., North Dakota Division, Northwest Petroleum Association, Waldorf Hotel.

14-15—Minneapolis, Minn., Minnesota Division, Northwest Petroleum Association, Radisson Hotel.

21-22—Oklahoma City, Okla., Oklahoma Petroleum Marketers' Association.

25-29 — Detroit, Mich., annual meeting, Society of Automotive Engineers.

30-Feb. 6 — Chicago, Ill., National Automobile Show.

FEBRUARY

9 — Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

9-10 — Des Moines, Iowa, eleventh annual convention, Iowa Petroleum Association, Fort Des Moines Hotel.

23-25—Columbus, Ohio, Ohio Petroleum Marketers' Association, Deshler-Wallick Hotel.

MARCH

21-27—Los Angeles, third annual Oil Equipment and Engineering Exposition.

23-25—Detroit, Mich., Michigan Oil Men's Association.

24-26 — Oklahoma City, Okla., American Association of Petroleum Geologists.

APRIL

11-16—Boston, Mass., ninth annual convention, American Oil Burner Association.

21-22—Cleveland, Ohio, semiannual meeting, National Petroleum Association, Hotel Cleveland.

WEST COAST MARKETERS PROMISE BETTER TIMES

(Continued from Page 81)

adopt this recommendation. It remains to be seen, however, whether operators will be able to reach this new objective as the present daily allowable of 487,500 bbls. has been attained on only one or two occasions. The possibility of better prices for crude and refined oil may be a stimulant, however, and pave the way for better times.

Coincident with the movement under way to stabilize retail quotations on the Pacific Coast, several marketers beginning the first of the new year will branch out with a complete line of automobile tires and accessories. The Union Oil Co. has adopted a program for the new year which contemplates the remodeling of existing service stations so that broadened activities may be brought under one roof. The Firestone Tire & Rubber Co. already has placed tires and tubes in all company-owned stations. Batteries, the type of which has not been decided upon, will be placed in all stations. Some idea of the magnitude of the Union Oil Co.'s undertaking is evidenced by the fact that more than 800 company-owned service stations are involved. Similar expansion programs of other companies on the Pacific Coast have extended over approximately a year. Instead of adding specialties from month to month, the Union Oil Co. expects to have every company-owned station completely equipped by January 1, 1932, with tires, tubes, batteries, accessories and a complete line of Union Oil products including such specialties as automobile and furniture polish, cleaning solvent, insect sprays and lighting fluid. The company is also considering the advisability of adding cigars, cigarets and soft drinks.

This program did not work out so well, however, because of the unequal distribution between units in any given area. The Standard accordingly repossessed its leased stations and in 1929 placed all its stations under control of eight different groups. In Southern California they were under control of Southern Gasoline Stations, Inc., in the Oakland, Calif., territory as the East Bay Gasoline Stations, Inc., in the state of Oregon as Oregon Gasoline Stations, Inc., and in the state of Washington as the Washington Gasoline Stations, Inc. On January 1, 1931, the Standard again brought all stations under a single control through a subsidiary company designated as Standard Stations, Inc. The Union has followed a somewhat similar procedure and its stations at present are under control of a subsidiary marketing company incorporated as Union Service Stations, Inc. Officers of the new Union subsidiary are L. P. St. Clair, president; R. D. Matthews, executive vice president; V. H. Kelly, vice president, and J. H. Dasteel, manager.

The Shell Oil Co. did not lease its service stations to former employes when the Standard and Union adopted this policy in 1928 but relinquished control of operations to Van Fleet & Durkee. Under this arrangement, Van Fleet & Durkee first acquired the Shell's service stations in Southern California but the scope of their activities enlarged and extended throughout the Pacific Coast territory. The Shell's Pacific Coast stations have continued under this arrangement until recently when Van Fleet & Durkee incorporated as V. & D. Service, Inc. The Shell retained its predominating color scheme and continued to stress its identity on all stations. The General Petroleum, Associated, Richfield and The Texas Company have continued to operate their respective stations although each has several large accounts which are charged with operation and maintenance of several company-owned stations. Most of these stations carry tires and tubes but have not been entirely equipped with a complete line of accessories and other salable items. Standard Oil Co. stations carry a stock of Atlas tires, tubes and batteries and other automobile accessories and it is believed quite probable that the present line of merchandise will be increased in 1932. Van Fleet and Durkee, operating stations of the Shell Oil Co. of California, carry a stock of Goodyear tires and tubes in addition to accessories. The Texas Company carries products of the Goodrich Tire & Rubber Co. in stock.

SUGGESTS ADOPTION OF PREFERENTIAL TARIFF

(Continued from Page 83)

Scottish shale oil resources, and home interests likewise have suggested the advisability of a stiff enough duty on refined products imports to stimulate the operation of the refining industry in the United Kingdom, which has not been operated at anywhere near capacity since the era of low prices for refined products set in a few years ago. At last reports British refineries were not operating much in excess of 33⅓ per cent of their rated capacity. A protective tariff on refined products shipped into the United Kingdom, some interests in the British oil trade have emphasized, would put British refineries back into operation on full schedules, would materially aid in reducing unemployment in the British Isles, thus cutting government expenditures through dole payments and probably would make feasible the construction of additional refineries.

Thus far there has not been any official announcement from the new government regarding its attitude toward a protective tariff on petroleum products, although such a step is not considered unlikely when final measures have to be taken for balancing the British budget. Proponents of a protective tariff on refined petroleum imports into the United Kingdom, however, are expected to find themselves confronted with opposition in the ranks of the oil industry, as has been the case in the United States.

PROGRESS REPORTED IN FIGHT ON RACKETEERS

(Continued from Page 81)

been improperly or incorrectly reported to the authorities.

As each day passes we are discovering that the racketeers have found some new way to carry on their operations. In connection with gasoline bootlegging we find kidnapings, intimidation, blackmail, briberies, collusion, corruption, hijacking, and all the other criminal practices of the liquor bootleggers.

We find trucks rumbling across state lines followed by convoys of armed men; payment of graft to unscrupulous officials. We even find refineries turning out millions of gallons of gasoline for illegal sale in collusion with bootleggers, sending this merchandise misbilled, unloading it in concealed tanks, and dumping it into various service stations under the cover of darkness; using the same type of vehicles as the legitimate companies.

We have organized in 13 states gasoline tax evasion committees comprising the larger companies and the independent units. Our plan will eventually consist of a committee in each state.

There are two fundamental problems; we must protect ourselves, and we must protect the consumer. What is the answer? We believe the answer is in these measures:

1. Co-ordination and co-operation on the part of every legitimate and honest marketer in the oil industry regardless of size.

2. Investigation of all cases of gas tax evasion.

3. A drive on the bootlegger by furnishing evidence to the various state authorities.

4. Pressure on the state collectors and the attorney generals not alone to collect delinquent taxes, but also to prosecute those guilty of defrauding the state.

5. Aiding the state departments to obtain enough investigators and auditors to check movements of gasoline in co-operation with railroads and other transportation companies.

6. A study of the gas tax laws for the purpose of determining whether they are adequate to control the situation.

In Chicago one bootlegging ring was so powerful it built up a defense fund of $100,000. Members were so firmly entrenched when our investigation started they took it as a joke. However, they have now come to realize we mean business. Several of the evaders have had to plead guilty to charges brought against them, and are awaiting sentence. There will be other trials, and it is my firm opinion that shortly you will hear of the first man to go to jail in the United States for gasoline tax evasion.

F. H. BEDFORD DIES, PETROLEUM PIONEER

NEW YORK, Dec. 5.—Frederick H. Bedford, former vice president of the Standard Oil Co. (New Jersey), and one of the pioneers of the American petroleum industry, died at Doctors' Hospital here last night, where he had been ill of heart disease for some time. He was 77 years of age.

Mr. Bedford was born in Brooklyn on July 25, 1854, the son of Frederick Thomas Bedford and Mary Ann Elizabeth Pace Bedford. Mr. Bedford and his older brother, the late Edward Thomas Bedford, former director and member of the executive committee of Standard Oil Co. (New Jersey), received their education in the country schoolhouse at Greens Farms, and each in later years maintained extensive country homes at that place.

From the first Frederick Bedford followed closely the career of his brother. The latter became an oil salesman with Boyd & Thompson, Brooklyn petroleum merchants, and at the age of 21 Frederick Bedford entered the employ of the same concern. A year later Edward Bedford became a partner in the business, the name of which was changed to Thompson & Bedford.

The Standard Oil Co. had been organized only seven years earlier, but had shown rapid growth, and soon after the Thompson firm's name was changed began to negotiate for a merger. In 1879 the Standard Oil Co. acquired Thompson & Bedford, but the name was retained and the Thompson-Bedford Co. handled all lubricating oils for Standard Oil Co. in the domestic field.

Frederick Bedford was promoted through various positions of responsibility and was chairman of the lubricating oil committee of Standard Oil Co. For a time he served as president of Standard Oil Co. of Brazil, but in later years his only office was that of vice president of Standard Oil Co. (New Jersey), in charge of the company's export business in lubricating oils.

Mr. Bedford retired as vice president of the New Jersey company on December 31, 1926, on the completion of his fiftieth year in the oil business. Upon his retirement, his son, Frederick H. Bedford, Jr., succeeded him as manager of the lubricating department.

Besides F. H. Bedford, Jr., Mr. Bedford is survived by another son, Edward Thomas Bedford, II, and a daughter.

A number of officials of Standard Oil Co. of New Jersey will serve as honorary pallbearers at the funeral services.

PRICES ON GASOLINE CONTINUE TO DECLINE

(Continued from Page 12)

product when blended with refinery gasoline not only improved the volatility but also increased the antiknock value of the blended fuel. But the trend in effect has now made natural gasoline manufacturers out of refiners as one phase of their plant operations and it has taken away these outlets and gives promise in some cases of spreading to the point where refiners will have excess natural gasoline which they will offer on the open and contract market in direct competition with gasoline manufacturers.

Reduce Purchases

During the past year this situation has resulted in several of the larger refinery buyers, particularly in the Gulf Coast area, gradually reducing their natural gasoline purchases. One large refiner recently cancelled contract orders for 1,500 cars which would have been delivered over the next 90 days from Mid-Continent gasoline plants. Reliable reports from the Gulf Coast indicate that three or four large refiners will require no natural gasoline from outside sellers.

Another blow to the natural gasoline industry has been the decline in exports. In the past, the bulk of the natural gasoline produced in the Mid-Continent has been shipped south to the Gulf Coast refiners and export terminals. The foreign market due to its demand for higher gravity and more volatile motor fuels has been a more important market for naturals than the domestic market. The natural gasoline is usually blended with a refinery product although in recent years large quantities of stabilized natural gasoline has been shipped direct to foreign markets.

No accurate figure is available covering the decline in this demand over the past year but the government data which show a decline of approximately 20 per cent in all gasoline exports indicate the relative situation for 1931 and 1930. Predictions for the first half of 1932 point to continued declines in the export demand.

Production Declines

On the side favorable to the manufacturer is the decline in natural gasoline production. The first 10 months of this year the natural gasoline production at gasoline plants totaled 140,500,000 gallons which is a decline of 22 per cent when compared with the 181,700,000 gallons total for the first 10 months of 1930. There are no figures on the production of gasoline similar to natural gasoline at refineries. This decline no doubt saved the natural market over the past year and made possible premium prices in relation to refinery gasolines during a part of this time. No important increases in natural gasoline production are in prospect at this time and it is claimed by some who have made a study of this situation that the decline in output over the next few months when compared with the same period last year will more than offset any possible increases due to the construction of plants in new fields.

In this connection it is also pointed out that while many refiners have increased their cracking and reforming facilities to the point where they are manufacturing their own natural gasoline, there are others who for various reasons have not and will not install the necessary equipment. To keep pace with the refiners who have improved the volatility and antiknock rating of their motor fuels, they will be compelled to buy more rather than less natural gasoline. This contention appears logical until relative costs are considered. Except in isolated cases it is doubtful if any refiner can buy natural gasoline, pay freight rates of from 1 to 4 cents a gallon and compete indefinitely with a refiner who is making his own natural gasoline.

Transportation charges between points of manufacture and consumption obviously will become of more and more importance as refiners and gasoline companies compete in the manufacture of natural gasolines. The refiners with their plants located near the points of consumption have the advantage. Realizing this situation the largest manufacturer in the Mid-Continent and three or four of the largest manufacturers on the West Coast are using pipe line transportation in the movement of part or all of their natural gasoline output. The cost is substantially less than a tank car movement and this enables the manufacturer to obtain a larger netback at their plants.

Manufacturers are not inclined to view their situation as any more critical than that of refiners. Natural gasoline in any attempt to gauge future markets must be considered as a motor fuel in the same sense as a refinery product. Because of this relationship it will be impossible to secure profitable prices for refinery products without providing a market for the natural gasoline. The only difference in the present situation than that of the past lies in the fear that natural may lose its premium relationship in the motor fuel trade.

Gasoline and Naphtha

Several small refiners on Monday and Tuesday who depend on the spot market to take the bulk of their plant output reported more inquiries and sales. Contract movement also has improved. With prices below the profit level, a number of refiners have refused to sell, running their excess supplies to storage. There have also been shutdowns and curtailments as explained in a report covering the Mid-Continent refinery operations published elsewhere in this issue.

The U. S. Motor grade was quoted at a low of 3¼ cents to the trade the first of the week. Resale material was available one-eighth to one-fourth cent under this quotation both for immediate delivery and delivery over the month. The quantity of this low-priced material is small and for the most part is gasoline of low or no octane rating. However, with little buying this distress material was dominating the market. Several of the larger companies have in effect withdrawn from the spot market, relying entirely on their contract customers including the requirements of their own stations.

The decline in the higher gravity gasolines is the same as in the case of U. S. Motor with hardly enough day-to-day trading to determine an accurate market. The 60-62, 400 endpoint grade was sold at 3½ cents on Monday and Tuesday in Oklahoma with other refiners quoting and selling up to 4¼ cents. The drop in the natural gasoline market has lessened the demand for the 350 and 360 endpoint grades and both grades have been sold under 5 cents. These grades are forced to compete with stabilized grades of natural gasolines which have been sold as low as 4 cents during the past few days. The low prices for natural gasoline may stimulate a demand for 450 and 437 endpoint blending naphthas. In the past, there has been a fair demand for a high gravity, low initial blend as winter motor fuel, especially when it was available under the U. S. Motor price.

Fuels

As previously indicated, there were trade reports to the effect that the Mid-Continent fuel oil market was soft. So far as Oklahoma is concerned this weakness, if any, is confined to the industrial grades of medium or high cold tests. These grades have not been strong for several weeks but no additional price cutting was reported during the week. Price ranges on fuels range from 22½ to 50 cents per barrel.

Some high cold test gas oil was sold during the week as low as 1¼ cents. The zero to 10 grades of low flash are firm at a low of 1⅝ cents. Other grades of furnace oil range up to 2 cents.

Kerosene

No change in the kerosene situation was noted during the week. Some of the small skimming plants which recently started up have a kerosene cut to offer. Rarely, however, does this cut meet all the specifications for kerosene and the fact that it has been sold at 2 cents or less has not disturbed the market. The 41-43 water white grade is selling at 2⅛ to 2¼ cents.

Lubricants

The 2-cent in bright stock and one-half cent reduction in neutral oils previously explained did not come as a surprise. With a seasonal decline in demand for paraffin base stocks and oils competition has become keen between the several refining groups. The Mid-Continent drop follows a steady decline in eastern prices extending over several weeks.

CANCELS LAND GRANTS

NEW YORK, Dec. 7.—The Argentine government has ordered the cancellation of oil field concessions granted by the federal interventor of Salta Province to several companies, including Standard Oil Company of Argentina, according to reports from Buenos Aires. The cancellations were ordered on the ground that the interventor had exceeded his authority in giving the various companies exclusive exploitation rights. A total of approximately 19,000 acres is involved.

GEOLOGISTS DISCUSS JACKSON GAS FIELD

SHREVEPORT, La., Dec. 7.—The December meeting of the Shreveport Geology Society was held Friday with W. F. Chisholm presiding.

G. O. Grigsby, of the geological staff of Brokaw, Dixon, Garner and McKee, read a paper on the Jackson gas field of Mississippi. Mr. Grigsby said the producing area of the field is approximately 5,250 acres. The production comes from the top 5 to 7 feet of a chalk body that has a thickness of 339 to 438 feet, and which is upper Cretaceous in age. The initial open flows vary from 5,000,000 to 53,000,000 feet of gas with an average of 34,000,000 feet for the 60 producing wells.

R. E. Heithecker, of the U. S. Bureau of Mines, continued his discussions, begun last March before the society, on the Zwolle Field of North Louisiana. This field, in Sabine Parish, is on the south flank of the Sabine uplift and is approximately 20 miles long from east to west with a maximum width of 4 miles. However, production to date has been found in commercial quantities in only 27 sections, and many of these sections have only one producing well. Of a total of approximately 280 operations, 104 wells have been completed as commercial producers, ranging from 5 to 4,500 bbls. per day. Only 68 wells were producing November 1. The discussion included a comparison of water analyses from the producing horizon or chalk series and the Ozan sands which produce large quantities of salt water if allowed to flow. A few wells have produced dry gas before obtaining oil production. A comparison of two samples of gas, before and after oil production, showed that the methane content dropped from 90 per cent to 77 per cent, and the ethane content increased from 2.3 per cent to 20 per cent after the well began flowing.

Wayne V. Jones, assistant manager of the Exchange Petroleum Co., discussed the age of the producing horizons in the Zwolle Field, and the division of the so-called Zwolle marl into two formations, one of Tertiary age and one of upper Cretaceous, also the probable existence of unconformities between the two marl formations and between the base of the Cretaceous marl and the top of the Zwolle chalk.

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 87)

ASSOCIATED OIL CO. PRICES

Associated Oil Co. prices effective June 20 are as follows:

Ventura Avenue, 22 gravity, 58 cents, with 2 cents added for each degree upward to and including 30 gravity, which is 74 cents.

Kettleman Hills, 30 gravity and above, 66 cents.

Potrero, 24 gravity, 69 cents, with 2 cents added for each degree upward to 34 gravity, which is 69 cents.

UNION OIL CO. OF CALIFORNIA

Crude Oil Prices for Its Purchases at the Well for Crude Produced in Strict Accordance With the Production Allocations Made by the California Statewide Curtailment Committee Effective 7 a.m., June 20, 1931

(All gravities above these quoted take highest price for that field)

Gravity °A.P.I.		Signal Hill	Alamitos Heights, Seal Beach	Huntington Beach	Athens, Rosecrans, Dominguez	Torrance	Santa Fe Springs	Playa Del Rey*	E. Coyote, Richfield	Montebello	Santa Paula	Orcutt	Coalinga	Lost Hills	McKittrick, Kern River, Stevens Adkey, Elk Hills, Buena Vista Hills	Gravity °A.P.I.
11-13.9	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	$.50	11-13.9
14-14.9	.....	$.65	$.65	$.65	....	$.65	....	....	$.65	$.65	$.65	$.55	$.55	$.55	.55	14-14.9
15-15.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	15-15.9
16-16.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	16-16.9
17-17.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	17-17.9
18-18.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	18-18.9
19-19.9	.....	.65	.65	.65	....	.65	....	$.65	.65	.65	.65	.55	.55	.56	.55	19-19.9
20-20.9	.....	.65	.65	.65	....	.65	....	.65	.65	.65	.65	.56	.55	.55	.55	20-20.9
21-21.9	.....	.65	.65	.65	....	.65	....	.66	.66	.65	.65	.57	.55	.57	.55	21-21.9
22-22.9	.....	.65	.65	.65	....	.66	....	.67	.67	.65	.65	.59	.55	.59	.56	22-22.9
23-23.9	.....	.67	.67	.67	....	.67	....	.68	.68	.65	.65	.61	.55	.60	.58	23-23.9
24-24.9	.....	.69	.69	.69	$.69	.68	$.65	.69	.69	.65	.66	.63	.55	.62	.61	24-24.9
25-25.9	.....	.71	.71	.71	.71	.70	.65	.70	.70	.65	.68	.65	.57	.64	.64	25-25.9
26-26.9	.....	.73	.73	.73	.73	....	.65	....	.72	..	.70	.67	....	.66	.66	26-26.9
27-27.9	.....	.75	.75	.75	.75	....	.68	....	.74	....	.72	....	....	.67	.68	27-27.9
28-28.9	.....	.77	....	....	.77	....	.71	....	....	....	.74	....	....	.69	.71	28-28.9
29-29.9	.....	.79	....	....	.79	....	.73	....	....	....	.76	....	....	.71	.74	29-29.9
30-30.9	.....	.81	....	....	.81	....	.75	....	....	....	.78	....	....	.72	.76	30-30.9
31-31.9	.....	....	....	....	.83	....	.78	....	....	....	....	....	....	....	....	31-31.9
32-32.9	.....	....	....	....	.85	....	.80	....	....	....	....	....	....	....	....	32-32.9
33-33.9	.....	....	....	....	.87	....	.83	....	....	....	....	....	....	....	....	33-33.9
34-34.9	.....	....	....	....	.89	....	.85	....	....	....	....	....	....	....	....	34-34.9

*Subject to a gathering charge of 5 cents per barrel.

NOTICEABLE DECREASE IN LEASE ACREAGE

(Continued from Page 24)

degree of development that had occurred in the area up to the time of leasing. If it was purely wildcat territory it is quite probable no bonus money was paid but the lease contained a clause requiring that a well be drilled upon the property within some stipulated time.

In the old days of development in Oklahoma and Kansas when wells were only a few hundred or 2,000 or 3,000 feet deep the five-year limit allowed the lessee ample time to fully explore the property and determine its true value. The wells in these old pools could be drilled in from 30 to 60 days and it was therefore possible to drill a great number of them within a year or within the five-year period of the lease and the lessee's chances for proving up his property were enhanced.

Those conditions have been very seriously changed in the recent years for with the movement of the drilling operations westward in Oklahoma and Kansas it is now necessary to drill holes 6,000 feet deep or more at the cost for a wildcat well of about $200,000 and the time consumed for drilling will be a year or more.

Under these changed conditions it is only a five-to-one chance that the lessee has to explore his holdings and at the investment of about $1,000,000 if he drills one well each year during the term of his lease. This can be compared with the old costs of about $28,075 per well in the Mid-Continent wildcat as given in Arnold and Kemnitzer's new book, "Petroleum in the United States." These wells averaged only a little over 2,800 feet and ranged from 32 to 7,856 feet in depth.

It has therefore become the policy of the oil companies to try to secure longer term leases on prospective oil properties and to be guided almost entirely by their geological departments in their selection of areas. It is understood that some leases have been made for a period of 16 years but in court decisions this period was deemed too long to give the minor heirs to the property just protection so it would seem that a 10-year lease is about the limit that can be expected on any property under the present laws.

Investigation discloses that this is one of the main reasons why many leases are being relinquished and turned back to the landowners, or if they are retained the amount of rental is being reduced approximately 50 per cent. If blocks of from 15,000 to 20,000 acres are held by an oil company it is now common practice to try to reduce its size to 4,000 or 5,000 acres most favorably located upon the structure and at the same time reduce the rental rate if possible. If the yearly rental rate is not reduced the outlay for the property is in any event materially decreased. If the block is already of from 3,000 to 5,000 acres in size it is now common practice to require that the rental be cut at least 50 per cent if the lease is to be retained.

Many companies have under lease from 2,000,000 to 5,000,000 acres of land and they have had their geological departments carefully go over the holdings and indicate upon the maps those tracts which in their opinion have reasonable chance for discovery of oil and gas beneath them. After the opinion of the geologist has been secured by the land and lease department those department managers next determine the value of the lease from the standpoint of offset acreage.

If it is found that the adjacent land is held by companies who will take the same attitude toward drilling as is their own policy it is possible that that the land will be held under lease, but the rental reduced. Under such conditions it is reported that one company has reduced its former holdings of about 2,000,000 acres by about 700,000 acres or 35 per cent and at the same time reduced the average yearly rentals upon the remaining 1,300,000 acres retained 50 per cent. In other words, it has cancelled $700.000 in rental by cancellation of leases and reduced the rental upon the balance retained by $850,000 per year or a total saving to the company of $1,350,000 per year.

The rate at which leases are being cancelled is difficult to determine accurately for many thousands of acres are held by small operators and lease brokers, but it is reported that in Oklahoma and Kansas over 15,000,000 acres were under lease to 22 large companies in January, 1931, and this had been reduced to about 12,000,000 acres in May of this year. This reduction of 3,000,000 acres gives some idea of the rate at which land is being turned back, and it is reported that it is being relinquished at even greater rate in some portions of Texas.

This is especially true in West Texas where single leases of 100,000 up to 250,000 acres were not uncommon. As there is no immediate prospect of any activity in those areas and the amount of rental involved is large it is now common practice to turn the land back to the ranch owners and save this money.

Change in Policy Affects Farmer

This change in lease policy is having its effect upon the farmer who formerly had come to look upon the rental of his land under lease as a fair share of his yearly income and it would therefore seem that the landowner should now be seriously concerned and desire such changes in the laws of his state as to permit him to be certain the rights to such oil and gas as exists under his property is recognized as his while still in place, rather than be forced into the position of only being able to sell to the oil company the right or privilege to explore for oil and gas and then be compelled to reduce same to actual capture before it is theirs, and such change will operate to his benefit.

There are many other evils under the existing lease laws that should be corrected and while the oil companies usually are willing to pay rental upon leases to the farmer or landowner they object to being placed in the position of being obliged to pay some lease broker this rental when his terms of lease from the landowner are such that all the lessor received was the bonus money and perhaps the first year's rental upon the property and the rentals for the balance of the terms of the lease goes to the lessee.

This condition arises when a lease broker secures from a landowner a lease to a piece of property under the terms that the lessor is to receive rental upon the property at a lower rate than usual, or is to receive only a bonus, or perhaps only be protected by the provision that within a stipulated time set forth in the lease the land will be drilled for oil and gas. While this is legal still it hardly seems fair to the landowner and is an unearned increment for the lease broker that does not really result in any benefit to the industry as a whole.

Other difficulties are arising in the subdivision of royalty interests in prospective and actual oil property. The troubles that arise in securing many leases because of the many owners to rights in the property place upon the oil companies a burden that increases their cost of handling leases as well as paying out royalties upon oil run, but they are small compared with the amount of bookkeeping involved in figuring royalty interests in many leases. In one instance it was recorded that there were 225 owners to rights in one 160-acre tract and it was necessary for the lessee to have the signature of each one of these owners before the lease was legal. In another instance a tract of 160 acres was held by an association and had been subdivided into 1,000 parts but the handling of royalty in it was simplified because one man acted as trustee for the tract and the lease was made to him and 999 others. The royalty was paid to the trustee and by him subdivided.

But those involve a small amount of work as compared with figuring royalty interests in a tract that had been subdivided as follows: $\frac{66,816,800}{1,069,068,800}$ of one-eighth. While this interest in itself is comparatively a large part of the total one-eighth royalty the subdivision of this royalty into less than one-billionth part makes the work of the purchasing company in figuring royalty difficult.

Companies Solving Their Own Problems

Because of these many complications that have developed out of the old practice of leasing land for oil and gas rights the oil companies have been forced to so adjust their practices to protect themselves as much as possible against errors in operations that may prove costly to them and against the desire of others to take advantage of those conditions and turn them to their own account.

One major company on the Gulf Coast of Texas has therefore adopted the policy of retaining leases in only such tracts located over salt domes as it has at least 50 per cent of the leased acreage and in most cases it holds the 100 per cent acreage over the structure. This protects it against being forced into competitive drilling campaigns against its wishes and will ultimately save them the investments of large sums of money, especially at times when it does not actually need to drill for oil as its supply from wells drilled and the oil in storage assures it of ample supply for the time being.

Large tracts in West Texas are being turned back to the ranchers there because they are not to be prospected immediately and it is felt that they will not be subdivided in leasing and it is therefore possible that at some later date if necessary they can be again re-leased under perhaps more favorable terms and in the meantime the rental money saved.

The leaders of the industry now recognize that the old competitive drilling conditions should be eliminated as far as possible in the individual pools and that the competition within the industry should be between the different pools in the country. Engineering methods have so advanced that there are now available means of securing the oil and gas from the underground reservoir under controlled production and with nearly a full conservation of the natural energy within the pool as expressed in terms of hydrostatic pressure and compressed gas.

The laws and decisions of the courts of this country in oil cases have been based largely upon a misconception of the nature of oil and gas underground for it has been regarded as migratory and had to be reduced to captivity before it became the possession of the oil company. That this idea is not in keeping with the modern knowledge of oil pools and the modern methods of production is admitted and if the American Petroleum Institute can lead the way to a change of the basic laws of the oil-producing states to remove this old conception of an oil pool it will do much to place the industry upon a firmer foundation for future development, and will also do much to conserve that oil which still remains to be secured from the present and future discovered pools of this country for the future generations.

TANK WAGON CHANGES

(Continued from Page 88)

ice station price one-half cent at Roanoke, Va.

Continental Oil Co., effective November 26, reduced gasoline tank wagon and service station prices one-half cent at Twin Falls, Idaho.

Standard Oil Co. of California, effective November 16, made several changes in gasoline prices in its territory.

Standard Oil Co. of Louisiana, effective December 1, advanced gasoline tank wagon and service station price 2½ cents at Lake Charles, La.

Standard Oil Co. of Kentucky reduced kerosene tank wagon price 2 cents at Jacksonville, Fla., effective November 19, and on December 1 advance it 1 cent a gallon.

A.I.M.E. LUNCHEON

The Mid-Continent section of the A.I.M.E. will hold its weekly luncheon on Monday, December 14, at the University Club, Tulsa, instead of the Chamber of Commerce Building. This is a special call and Wallace Collins, secretary, will arrange details for the meeting.

OIL TRADE OF CENTRAL AMERICA IS NOT LARG

The petroleum trade of Central Amer ica and the West Indies is not large considering the size and population of those areas, according to F. J. McCarthy Jr., of the petroleum section, mineral division, of the Department of Commerce in a recent issue of Commerce Reports.

Motor registration averages 174 per sons to a car, and gasoline consumption 2,850,000 bbls. a year or 6.8 gallons person. The West Indies on the whol is a better petroleum market than Cen tral America owing to the high averag of purchases in Cuba and Porto Rico.

In Central America the United State is the leading supplier, followed by Per and Mexico. Except in British Hondura and Honduras, the outstanding Centra American oil ports are mostly on the Pa cific, so that oils from the Pacific Coas of the United States and from Peru hav an advantage. Guatemalan gasoline con sumption in 1930 amounted to abou 160,000 bbls. (average of 3.1 gallons pe person), 75 per cent of which was sup plied by Mexico, 16 per cent by th United States, and almost all of the ba ance by Peru.

The petroleum market of British Hon duras is limited and supplied by prac tically only two countries—Mexico, which leads in all products except lubricating oil, and the United States, which is firs in contributions of that product. In 1930 petroleum consumption approximat ed 13,800 bbls. of gasoline (11.4 gallons per person), 7,000 bbls. of kerosene, 1,40 bbls. of lubricating oil, 6,600 bbls. of fue oil, and 35,000 pounds of grease. Gaso line exports from the United States t Honduras dropped from 101,609 bbls. i 1929 to 26,198 bbls. in 1930, kerosen from 48,042 bbls. to 4,102 bbls., lubri cating oil from 44,327 bbls. to 5,388 bbls gas and fuel oil from 214,364 bbls. t 126,379 bbls., and lubricating grease fro 118,915 pounds in 1929 to 102,952 pound in 1930.

The latest available figure for gasolin consumption in El Salvador is 35,14 bbls., all from Peru, in 1929.

The earthquake destroyed Nicaragua statistics, but 1930 consumption is est mated at 80,000 bbls. of gasoline, 47,00 bbls. of kerosene, 5,000 bbls. of lubricat ing oil, and 120,000 bbls. of fuel oil. The United States and Peru supply most o the gasoline, Peru most of the kerosene and the United States practically all o the lubricating and fuel oils.

Costa Rica's gasoline consumption de clined approximately 20 per cent in 1930 The United States supplied 52 per cen of the total and Peru 45 per cent. Kero sene consumption dropped from 5,60 bbls. in 1929 to 4,500 bbls. in 1930. The United States supplies about 60 per cen of the kerosene, Peru about 35 per cent and the remainder is transshipped through Panama. The apparent con sumption of lubricating oil increased from 3,400 bbls. in 1929 to 4,000 bbls. in 1930 of which the United States furnished 5 per cent. Fuel oil consumption dropped from 149,000 bbls. in 1929 to 80,000 bbls in 1930. Venezuela supplied practically the entire amount last year.

Gasoline consumption for the Republi of Panama and the Canal Zone in 192 (latest available figure) approximate 59,800 bbls., 52,900 bbls. of which were used in the Canal Zone. Other petro leum products consumed that year were 39,000 bbls. of kerosene, only 12,800 bbls of which were used in the zone; 10,500 bbls. of lubricating oil. only 2,800 bbls for the zone; 1,043,388 bbls. of Diese oil, all but 30,000 bbls. used in the zone and 6,196,000 bbls. of fuel oil, all bu 4,000 bbls. for the zone.

REDUCE NEW YORK GASOLINE

Standard Oil Co. of New York Decem ber 8 reduced tank wagon and service station gasoline prices 2 cents a gallon throughout New York City, Westchester and Long Island. Other major mar keters met the reduction. The new prices are 12.3 cents for tank wagon and 14.3 cents for service station.

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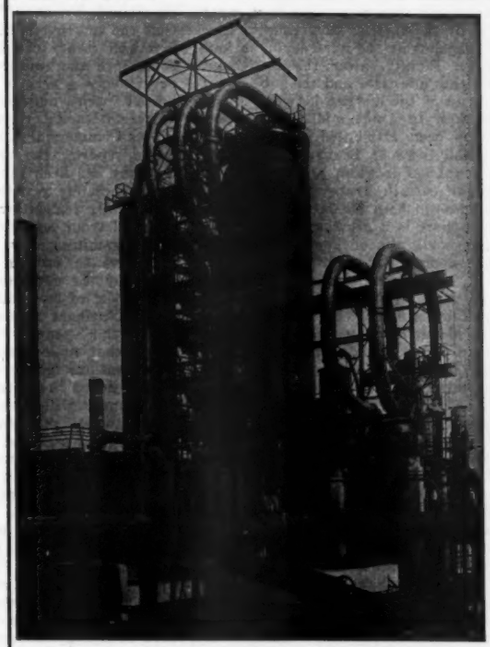

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AMERICAN DRILLING IN TURKEY; GOVERNMENT LIBERALIZING OIL LAWS

The Inter-Continent Petroleum Co. of New York, which holds a concession of about 1,700,000 acres in Turkey, is reported to have reached 200 feet in its first well, No. 1 Mereste, about 80 miles west of Constantinople, on the Gallipoli Peninsula. Mr. O'Brien, formerly operating in Rumania for the Standard Oil Co. of New Jersey, is in charge of the work. It is stated that 10 shallow prospecting wells, drilled near each other, have given favorable indications. The Inter-Continent Petroleum Co. has brought four standard outfits and 18,000 feet of casing from America, and will drill at once two wells in addition. One will be near the town of Sinope, about 20 miles southward from the coast of the Black Sea in the district of Kastamuni. The second will be to the north of the Iraq frontier, about 50 miles southeast of Marain in the Diarbekir district.

At various times in the past, foreign engineers and geologists have reported the existence of geological formations which indicated the possibility of finding petroleum in Turkey in large quantities. These reports have been supplemented and increasing importance has been given to them by the finding from time to time of oil seepages at the surface in various localities. Finally, after the settlement of the Mosul question, and the subsequent proving up of the district between Mosul and Kirkuk in Iraq, additional importance has been attributed to the petroleum possibilities of Turkey. Because of its geographical location and the known presence of certain strata and sands similar to those in both the Mosul and Baku districts, there is a growing hope that in the eastern vilayets of Turkey petroleum in large commercial quantities may be found.

There are two theories regarding the oil possibilities of eastern Turkey—first, that the Mosul fields are an extension of the Baku fields, and that the Turkish vilayets located between these two known and proven fields will prove to be equally as rich as either of the other two fields; second, other authorities believe that Mosul is the center of the pool, but that the oil-bearing sands branch off from Mosul in two directions, one curving to the northeast where the Baku fields are located, and the other curving to the northwest coming up into Turkey. In addition to these two general areas, oil is reported to have been found in the vicinity of Erzeroum, Samsun, Sinope, Lake Van (all in Anatolia), and on the Marmora littoral near Rodosto in European Turkey. No serious efforts have ever been taken properly to explore or drill in any of the Anatolian districts, but the general opinion is that in none of the above regions is oil to be found in commercial quantities. In the Rodosto area, it is stated that certain drilling operations were made just prior to the war, and that one shallow well was brought in producing about 3 tons per day. It is reported that the concession for the district was obtained by Abbas Hilmi Bey, the former khedive of Egypt, but it is not known definitely whether the title to this concession still remains in his hands, or whether it has been sold to other parties or has expired.

That no serious effort has ever been made to determine the potential petroleum resources of the eastern and southeastern vilayets of Turkey is due to almost continuous warfare from 1909 until 1923, lack of security and absence of stable government in the Kurdish populated districts of eastern Anatolia, lack of adequate means of communication, and unfavorable mining laws, which from a practical point of view prevented foreign groups from taking serious steps to drill for or develop the possible oil-producing districts.

During the last half of 1929, it was recognized by the Turkish government that the existing mining laws are so unfavorable that foreign capital will not come into the country on a large scale or evidence a serious interest in the reported rich undeveloped mineral resources. During recent months, United States Commercial Attache Julian E. Gillespie reports, the minister of national economy has been preparing a project of law completely revising and modernizing the mining legislation of Turkey. It is reported from competent authorities that the new mining law will be liberal and attractive to foreign capital, and it is hoped by the competent authorities that the project of law will be adopted by the Grand National Assembly and come into effect this year. Furthermore, it is stated that under this law the granting of concessions for the exploration and development of the petroleum resources of the country will be reserved exclusively to the council of ministers.

Coincident with the drawing up of new mining legislation, the Turkish government decided that it would undertake certain exploration work for petroleum independently. To this end, an expert oil man with practical experience was obtained and attached to the ministry of national economy as "oil advisor."

Since the arrival of the new oil advisor, he has been occupied, in connection with a government geologist and engineer, with studying various districts in Anatolia where indications of oil and natural gas are said to be found.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 33)

MORRIS COUNTY

Allender et al's No. 1 Wycoff, C SW SE, Sec. 5-17-7....S.D. 105 ft.
Urschel et al's No. 1 Bersuch, NW SE NW, Sec. 10-17-7..Fishing 915 ft.
Hankerson et al's No. 1 Cessman, SW SE, Sec. 24-16-9..S.D. 2,625 ft.

NORTON COUNTY

Richards et al's No. 1 Colby, Sec. 17-4-21w .....Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW, Sec. 21-14-15....S.D. 2,058 ft.

RAWLINS COUNTY

J. G. Durham et al's No. 1 Weaver, SE cor., Sec. 3-2-35w..S.D. 3,925 ft.

RICE COUNTY

Cress et al's No. 1 Sharp, SE NE, Sec. 13-20-10w .....Show oil 3,107-15 ft.; Siliceous 3,330-36 ft.; estimated 1,500 bbls.; shut in.

RUSH COUNTY

Dewey & Mitchell's No. 1 Greenawalt, C SW, Sec. 17-19-16w .....Show of oil in Conglomerate 3,825-80 ft.; plugged back to 3,825-40 ft.; estimated 150 bbls.; S.D.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W½ NE NW, Sec. 20-13-4w .....S.D. 2,710 ft.

SHERIDAN COUNTY

Flo et al's No. 1 Shoemaker, SE SW, Sec. 27-7-26w ....Drlg. 3,815 ft.

STAFFORD COUNTY

Rosenthal, Stanolind and Amerada's No. 1 Gray, C NE, Sec. 11-24-13w .....S.D. 3,560 ft.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE, Sec. 10-33-39w...S.D. 5,521 ft.

SUMNER COUNTY

Tighe et al's No. 1 Thieson, C NW SE SE, Sec. 22-34-2....S.D. 2,550 ft.
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW, Sec. 6-34-2 .....S.D. 2,300 ft.
Spencer et al's No. 1 Penwell, NW SE NE, Sec. 16-3-3...Drlg. 4,175 ft.

WASHINGTON COUNTY

Sincox et al's No. 1 Penwell, NW SE NE, Sec. 16-3-3....S.D. 1,720 ft.

OIL INDUSTRY'S INTEREST IN RADIO COVERS MANY PHASES OF OPERATION

By Horace L. Lohnes
Of the Legal Staff of the National Petroleum Association

The term "radio" to many people means radio broadcasting. The spectacular development of this phase of radio communication has directed public attention to this field to the exclusion of other branches of the art, which from an economic standpoint, are just as important. However, the oil industry, ever on the alert to make full use of new and modern methods, has not overlooked this struggling young giant, and has reached out and applied its scientific principles to the discovery of new pools and to the further and systematic development of old fields. The problems of the radio industry have thus become in part the problems of the oil industry, and it is the purpose to discuss briefly the various phases, uses and applications of radio communication to the business of producing, refining, transporting and marketing of petroleum products.

The difficulties peculiar to the radio industry are, for the most part, all directly or indirectly traceable to one fundamental fact: The total facilities available for radio communication are limited by the laws of science. The persons desiring to use these facilities are more numerous than can be accommodated by the comparatively few available channels. The oil industry has, therefore, been forced to step forward and assert its right to use a portion of the radio spectrum, and prove to the licensing authorities that public interest, convenience and necessity required the allocation to it of certain channels or facilities.

Further discussion of this subject should be prefaced by a brief history of radio legislation in our country. The first legislation classifying agencies engaged in interstate communication by telegraph, telephone, and cables as carriers, subject to Federal legislation, also expressly included companies engaged in radio communication. The Act of June 18, 1910, amended the Act of February 4, 1887, entitled "An Act to Regulate Interstate Commerce" to read as follows:

"That the provisions of this Act shall apply . . . to telegraph, telephone, and cable companies (whether wire or wireless) engaged in sending messages . . ."

The Transportation Act of 1920 specified that the provisions thereof shall apply to common carriers engaged in the transmission of intelligence by wire or wireless between states and with foreign countries.

The second statute dealing with radio related exclusively to the installation and use of radio equipment on board steamers. (Act approved June 24, 1910, as amended by Act of June 23, 1912.) This Act also provide that the Secretary of Commerce and Labor shall make such regulations as may be necessary to secure its proper execution. This Act represents the origin of control by the Secretary of Commerce, whose authority was considerably increased by the Act of August 13, 1912. This Act established the Secretary of Commerce as the licensing authority for all forms of radio communication, but the powers conferred upon the Secretary by this Act proved to be severely limited, and although several attempts to pass suitable legislation were made, Congress took no action until February 23, 1927.

Beginning of Broadcasting

In the meantime radio had passed from an undeveloped stage into one of extraordinary growth and development. Broadcasting was introduced in 1920 when the station that afterwards became KDKA sent out election returns. The number of stations increased rapidly until in 1925 there were 578. The Department of Commerce struggled valiantly to cope with this situation under the authority conferred upon it by the Act of 1912. Under the law the department could not refuse an application for license from any citizen and was forced somehow to find a place for each applicant. There were only 95 channels devoted to broadcasting with approximately 600 stations to be accommodated. Fundamental engineering principles require that only one station of high power be allowed to operate on a single channel at a time if service is to be rendered to rural communities and areas removed from the immediate vicinity of a station. The department did the only thing it could do, and aided by a decision of the Court of Appeals of the District of Columbia, held that while it could not reject an application, it could assign a channel where the least interference with other stations would result. In this manner the department was able to keep half the channels clear by permitting only one station to broadcast thereon at a time. All of the remaining applicants were literally dumped upon the other half of the available channels and the listening public was introduced to those foes of good reception, cross talk, heterodyning and other forms of station interference.

While all of this was taking place, Nero fiddled on Capitol Hill, trying to determine whether radio regulation should be vested in a new commission or allowed to remain with the Secretary of Commerce.

In April, 1926, a decision was rendered by Judge Wilkerson of the District Court of the United States for the Northern District of Illinois, which led to the breakdown of all radio regulations. A Chicago station, dissatisfied with the treatment accorded it by the Secretary of Commerce, suddenly decided to jump its assignment and started broadcasting full time on a Canadian channel. The Department of Justice prosecuted the owner, a corporation, and the court held in general that under the Radio Act of 1912, the Department of Commerce had no right to restrict its wave length, power or hours of operation.

This decision was followed by a ruling of the Department of Justice to the effect that under the Act of 1912, the Secretary of Commerce not only had no authority to specify wave lengths, restrict power, or limit hours of operation, but he could not even limit the license period, which up to that time had been for three months only.

Creation of Radio Commission

These decisions led to an apparent "breakdown" in the law and regulation of radio, lasting from the opinion of the Attorney General on July 8, 1926, to February 23, 1927, when Congress passed an act creating the Federal Radio Commission and at the same time leaving certain powers vested in the Secretary of Commerce.

Due to this so-called breakdown in the law, broadcasting stations "hopped" frequencies at will and new ones came into existence, the result being that the commission faced a most chaotic condition when it came into existence, there being 733 broadcasting stations in operation, far too many to be accommodated on the 90 channels then available for use by American stations.

The Radio Act of 1927 has been amended in several respects since its passage, but space does not permit of a discussion of these amendments; neither is there an opportunity to discuss the international treaties and court decisions bearing upon the subject, all of which must be taken into consideration in the study of any major radio problem.

Oil Industry's Interest

But what of the oil industry? What was it doing all of this time? The World War had brought about highly developed uses of radio and sound detection devices. Eminent scientists at the Bureau of Standards and elsewhere had discovered new and highly important uses of radio phenomena. Geologists became interested in these experiments and thus began the use of radio in connection with

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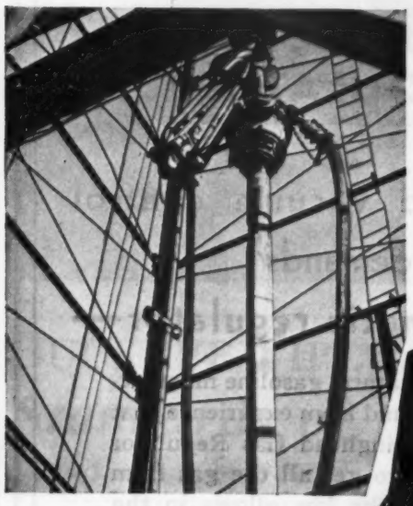

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geophysical exploration. A nation geared in its use of petroleum products to in excess of 100,000,000 gallons each 24 hours was forced to find new pools to insure an adequate supply for at least a few years forward.

We all know that in the early days of the industry oil deposits were discovered by random drilling—as much by accident as by design. In 1882, Dr. I. C. White, then professor of geology at the University of West Virginia, rediscovered and gave life to the anticlinal theory of oil occurrences. This theroy, the subject of bitter controversy for years, had by 1915, become of fairly well established validity in the industry. The search for oil was placed upon a scientific basis. Prospecting was first confined chiefly to anticlines so outstanding that the dip of the rocks could be seen by the eye. This method was succeeded by the plane table mapping of rock ledges. This in turn was succeeded and supplemented by the making of subsurface maps from well logs. In order to meet the constantly increasing requirements of the industry further advances in technique were made. Soil and waters were analyzed by chemists, the old well log of the driller was replaced by information obtained from actual samples by trained microscopists and micropaleontologists. Millions were spent in drilling shallow wells for geologic information alone.

Seismic Method

About July 1, 1924, the seismic method of oil exploration was introduced, radio being used for the all important function of transmitting time signals to seismographs, instruments designed to record earth shocks, the shock being created by heavy charges of explosives. The time required for these earth waves to pass from the explosion point to the seismograph gives to the trained scientist information relative to the subsurface geology between the two points. Salt domes, as you all know, are the type of geologic structures with which the prolific oil fields and sulphur deposits are associated in Southeast Texas and southern Louisiana and other portions of the Gulf Coastal area. In that area, during the 25 years prior to July 1, 1924, domes had been found by geology and by accident to the number of 42. During the period July 1, 1924, to November 13, 1928, the seismic method was responsible for the finding of 45 more. I do not have definite information as to the number of domes discovered by the seismic method since that date, but I have reason to believe that the number is fairly large.

In addition to the seismic method, radio phenomena are used in several other methods of geophysical exploration; such as direct radio prospecting by the transmission of radio waves through rock structures and the study of the effect of these rock structures upon the direction in which the waves travel, their attenuation, etc.; and the study of gravity measurements wherein radio again supplies the means of transmitting the all important time signal.

I have gone into this history of geophysical exploration to show that radio was in use by the oil industry long prior to the passage of the Radio Act of 1927, and the creation of the Federal Radio Commission. One of the first undertakings of the commission was the task of finding out just who was on the air, and upon looking around they found various oil companies and geophysical exploration companies encamped upon certain of the highly valuable frequencies.

Oil Company Licenses

When their applications for renewal of licenses and requests for permission to construct new stations came up for consideration, the commission notified the interested companies that they were not satisfied that "public interest, convenience or necessity" would be served by the granting thereof and set all of said applications for hearing. After a series of hearings, conferences and other proceedings were held, a favorable decision was reached and the geophysical stations had their licenses renewed and new ones were allowed to be constructed. Subsequently the commission decided that this particular service should be rendered only by those companies who were in the position to and who would serve the public generally, somewhat in the nature of a public utility idea of operation. This called for further hearings, the result of which upheld the right of a private company to do its own geophysical prospecting.

At the present time there are 122 stations licensed to use radio in connection with geophysical work. The scheme of operation adopted permits them to use any one of five specific frequencies located in the continental mobile band. They are licensed to use unlimited hours of operation and are allowed power up to 10 watts. In special circumstances they can be licensed to use up to 50 watts. The situation today before the Raido Commission is highly favorable to the operating companies.

Although the oil industry was vitally concerned in being allowed to use radio in connection with geophysical exploration, the problem of point-to-point communication by means of radio rapidly came into the limelight of commission activities. As early as 1923 various companies in the Mid-Continent Field were using radio as a means of transmitting messages between home offices, producing fields and refineries. By the time the commission came into existence in 1927, the use of radio in the southwestern part of the United States by various oil companies was quite extensive. These stations were established because the need of communication in this territory is very great and other means of communication are lacking or entirely unsatisfactory. To illustrate, one company became interested in communication between the main office and a new field. The air line distance was 180 miles long, passing through four exchanges and including both private and "farmer line" circuits. The service was subject to frequent interruptions and delays. Telegrams could not be handled directly but were sent over commercial telegraph circuits, partly over railroad circuits and then delivered by telephone and messenger. The telegraph terminal was itself 11 miles from the field.

Field Station

The first radio station in the Panhandle Field was established six months before a single commercial telegraph line was available. During the peak of activity in that field and for over a year this station handled an average of over 10,000 words a day. This station is still in operation although not in the original location and is now handling a traffic of approximately 5,000 words per day.

It is of importance to note that the business activities connected with the development of an oil pool reach a peak relatively soon after its discovery. It is not uncommon to have this peak reached and passed prior to the establishment of public service wire communication. To illustrate: Telegraph service was not available to Borger, Tex., until October, 1926, when the business activities of the pool had already passed their peak. The very nature of the business makes it exceedingly unwise for public service wire companies to venture an investment in establishing a service where the future business may or may not justify it.

It is not the purpose of this article to justify radio communication between points in our oil-producing fields of the Southwest. That has already been done in several hearings before the commission. It is sufficient to say that the commission has permitted the establishment of a public service radio communication company to take over all of the stations in Oklahoma, Kansas, Texas and New Mexico owned and operated by individual companies and has tentatively assigned nine channels for this purpose.

Several oil companies have organized communication companies which have been successful in obtaining licenses for transoceanic communication, while others operate ship-to-shore and shore-to-ship stations.

Advertising Programs

In common with industry in general, the oil industry has been quick to seize

upon advertising programs over the several chains as a real aid to business, and a number of companies now furnish radio listeners with entertaining programs regularly.

The Washington office of the National Petroleum Association has appeared before the Federal Radio Commission on behalf of the industry generally and the companies particularly concerned in both the geophysical and point-to-point cases, in addition to appearing on behalf of several companies interested directly in broadcasting stations. We have been directly or indirectly concerned in the securing of licenses for each of the 122 geophysical stations operating today, and are before the Court of Appeals of the District of Columbia as amicus curiae on behalf of those interested in point-to-point communication.

This article is not intended as a complete survey of the law applicable to radio, neither does it purport to be an accurate geophysical treatise. It may, perhaps, point out the relationship of these two young giants of the twentieth century, and make us wonder what marvels of science and human ingenuity are just around the corner.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 30)

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor. Sec. 1-7-22w .....5,000,000 ft. gas 1,455-65 ft; T.D. 1,760 ft.
French's No. 1 Murphy, SW NW Sec. 22-7-21w .....S.D. 1,645 ft.

HARPER COUNTY

Sinclair O. & G. Co.'s No. 1 Howell, C SW SW, Sec. 14-26-24w .....20,000,000 ft. gas 5,350-5,400 ft; T.D. 8,539 ft; S.D; sprayed 50 bbls. gasoline.

HASKELL COUNTY

Ault et al's No. 1 Harrison, CWL SE NE, Sec. 14-9-19..S.D. 650 ft.
Ault et al's No. 1 Hall, NW SW SW, Sec. 14-9-19 .....S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW, Sec. 25-19-9 .....S.D. 200 ft.
Holden's No. 1 Phillips, SE cor., Sec. 3-9-18e .....S.D. 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW, Sec. 10-9-18e..S.D. 2,387 ft.

KAY COUNTY

W. H. Atkinson et al's No. 1 Hayes, SE NE, Sec. 24-28-3..Rig.
Lewis et al's No. 1 Harris, SE NW, Sec. 14-25-1 .....Location.
Mummert Drgl. Co. et al's No. 1 Cormick, C NW SE, Sec. 9-27-2 .....S.D. 3,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w .....Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE, Sec. 8-7-18w .....S.D. 820 ft.

LATIMER COUNTY

Choctaw Oil Co.'s No. 1 Fitzgerald, C NW NW, Sec. 1-6-22. Drlg. 1,780 ft.
P. English's No. 1 Unknown, NW SE, Sec. 16-6-19 .....S.D. 1,542 ft.

LINCOLN COUNTY

Hilton Phillip's No. 1 Phillips, SW NW, Sec. 2-14-3 .... Drlg. 4,710 ft.
Mote et al's No. 1 School Land, NW cor., Sec. 36-17-5 ..1,160 ft.; S.D.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE, Sec. 32-9-16 .....Drlg. 5,825 ft.

MURRAY COUNTY

Capitol Prod. Co.'s No. 1 Cutchall, SE NE, Sec. 6-1-2 ....S.D. 2,425 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE, Sec. 21-11-19 ..S.D. 1,011 ft.

OKFUSKEE COUNTY

Shepard et al's No. 1 Neveas, SE NW SW, Sec. 3-12-10..S.D. 3,638-90 ft; Wilcox sand; hole full wtr.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor., Sec. 21-11-3w .....S.D. 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW, Sec. 17-11-3w .....S.D. 5,515 ft.

PAWNEE COUNTY

Rockstool's No. 1 Wylie, NW NE SW, Sec. 6-20-5 .....S.D. 1,950 ft.
Cochran et al's No. 1 Green, NE cor. SW, Sec. 15-23-5..Rig.

PITTSBURG COUNTY

Tape Oil Co.'s No. 1 Fulton, SE, Sec. 34-7-14 .....S.D. 1,200 ft.
J. Morrison's No. 1 Fowler, NE SE, Sec. 13-7-17 .....Rig.
C. Kennedy's No. 1 Travis, C SW NE, Sec. 15-7-14 .....Rig.
C. Canady's No. 1 Jones, NW cor., Sec. 14-8-14 .....Rig.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW, Sec. 23-12-24w .....C.O. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE, Sec. 4-11-26w .....S.D. 3,375 ft.

SEQUOYAH COUNTY

Braman Oil Co.'s No. 1 Unknown, C NW SW, Sec. 29-13-22 .....Drlg. 1,313 ft.

WAGONER COUNTY

J. A. Barbee's No. 1 Childers, CWL NW SW, Sec. 28-18-17 .....Drlg. 875 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Wolfe, NE SW, Sec. 23-9-17w....Location.
Cooper & Terhune's No. 1 Blocker, NW cor., Sec. 19-8-19w .....Drlg. 2,740 ft.; show oil 2,459-67 ft.
Burns & Prince's No. 1 Deck, SW cor., Sec. 21-8-18 ....S.D. 1,140 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW, Sec. 11-1-1B..Cementing 4,685 ft.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Morris et al's No. 1 Mansell, SW NW NW, Sec. 9-2s-12 ..S.D. 285 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE, Sec. 18-3s-10 .....S.D. 1,630 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW, Sec. 7-7-10. T.D. 650 ft.
Bush et al's No. 1 Commerce Trust, NE cor., Sec. 35-6s-9 .....T.D. 740 ft; plugged back to 450-80 ft.
Whalen et al's No. 1 Mason, NW SE SW, Sec. 24-6s-9...Drlg. 430 ft.

CHOCTAW COUNTY

Hobson Bros.' No. 1 McChristian, NW NE NE, Sec. 12-6s-19 .....S.D. 730 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE, Sec. 18-4s-8w .....Location.

LOVE COUNTY

Van Vleck's No. 1 Sheldon, NE SE NW, Sec. 14-8s-24 ...Drlg. 1,540 ft.
Autrey et al's No. 2 Cross, CWL SE NE, Sec. 27-6s-2 ...Show oil and gas 970-72 ft. and 1,324-34 ft.; drlg. 1,650 ft.

MARSHALL COUNTY

Everette et al's No. 1 Agres, SE NE, Sec. 14-7s-6 .....Drlg. 998 ft.
Summers-Sellers' No. 1 Beams, NE SW NE SW, Sec. 20-7s-5 .....Rig.
Dixson's No. 1 McDuffel, SW SE, Sec. 3-7s-6 .....Show oil 791-828 ft; T.D. 1,096 ft; plugging back to 828 ft; abnd; T.D. 1,105 ft.
Newman et al's No. 1 Henry, NW cor., Sec. 22-7s-6.....Rig.
Taliaferro et al's No. 1 fee, NW SE SE NW, Sec. 34-5s-5 .....Drlg. 830 ft.

McCURTAIN COUNTY

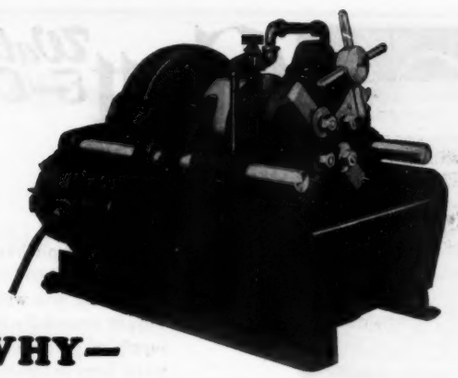
Prassell et al's No. 1 Wagoner, SE NE, Sec. 5-8s-27.....Drlg. 150 ft.
Stampfs et al's No. 1 Harris, SW NW SW, Sec. 14-9s-25..Drlg. 1,300 ft.
Stewart's No. 1 Patterson, C SE SE, Sec. 7-6s-24 ..... Drlg. 780 ft.

PUSHMATAHA COUNTY

George's No. 1 Lane, NW SE, Sec. 32-3s-15.....S.D. 840 ft.
Whitehead et al's No. 1 Messer, SE SW SW, Sec. 35-3s-18 .....Drlg. 340 ft.

STEPHENS COUNTY

Brown's No. 1 Hightower, SW SE NE, Sec. 15-3s-5w ....Sand 990-1,004 ft; S.O; S.D.



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SUGGEST PERCENTAGE PLAN FOR DETERMINING DEALER DISCOUNT

By E. P. Angus
Magnolia Petroleum Co.

NEW MARKETING PLAN

In the accompanying article, Mr. Angus, who is vice president in charge of sales for the Magnolia Petroleum Co., Dallas, briefly explains a new plan to govern refinery tank car and dealer accounts.

Mr. Angus suggested this new basis in an article appearing in the March 22, 1928, issue of The Oil and Gas Journal. Numerous requests have been made that his discussion be republished. In the accompanying article Mr. Angus gives additional features.

The Journal will publish any comments, favorable or otherwise, regarding the innovation in marketing practice suggested by Mr. Angus.

At the present time the only recognized market on gasoline is that current price which is obtained for gasoline in tank car lots f.o.b. refinery points particularly, and in cargo lots at seaboard. The percentage of the volume of the total gasoline consumption in the States handled by distributors owning refineries is not known, but it is understood to be quite a large percentage of the total. The market on that portion of the gasoline is not based so much on the current tank car price at refinery points, since sale of this gasoline from the original owner is on a tank wagon basis, and a certain per cent of thq gasoline sold by refiners to nonrefining jobbers is on a basis of so much under the prevailing tank wagon market at points of destination. The present tank car market, therefore, is based largely on current sales of spot shipments on a comparatively small part of the total gasoline output.

Under the present general plan of marketing gasoline, in most localities there is a certain definite spread between the tank wagon price and the service station, or retail price—in some localities it is 2 cents, in some 3 cents, in some 4 cents, and as high as 6 cents. This spread often continues, regardless of any advance or decline in the market price, whether it be tank car, tank wagon or service station. Many nonrefining jobbers purchasing through brokers, or direct from the refining companies, purchase under some kind of guaranteed or marginal contract, which margin between delivered cost to the jobber and the current tank wagon price, remains the same, whether it be 3, 4 or 4½ cents, irrespective of advance or decline in either tank wagon or service station retail prices.

Under this plan of marketing there is no incentive to the dealer who buys from tank wagon or the jobber who buys in tank cars, to uphold a reasonable and profitable price, so that the refiner, the jobber or the distributor will also be able to secure a reasonable profit. Many cases in recent years have developed where under a guaranteed margin, whether it be to the dealer or the jobber purchasing in tank cars, resulted in a net back to the refining company 1 to 4 cents under what may be regarded as the tank car market.

It is recognized that many men are thinking on the subject of some plan that will assist, or be helpful, in remedying some of the present and recent past problems of the industry. It is not likely that any plan can be suggested, or adopted, that will cure all of the ills. There is too much varied interests for the industry to take up and adopt any particular plan for basing a market, but it is obvious that some movement should be made in a direction which would work in a practical way to eliminate some of the causes of the unnecessary and unbusinesslike local price fluctuations. To that end, the following plan is offered, merely to be considered and studied with a view of forming a definite sentiment toward some action that will tend to improve the present (and past) difficulties.

Plan of Operation

The plan is that the distributor, whether he makes his own gasoline or purchases from other refineries in tank car lots should maintain a retail price on his product, and that price be considered, exclusive of the excise or other tax; that the sales then made to the dealer should be billed at retail price less a certain per cent discount. For practical illustration, we will say that the distributor's retail price today is 15 cents plus tax, and his discount to his dealer is 20 per cent, the dealer's discount in this case would be 3 cents, which is approximately the average over the country today.

If the distributor's schedule should be advanced to 17 cents plus tax, based on advance of crude or otherwise, then the 20 per cent would equal 3.4 cents spread for his dealer. On the other hand, if the schedule is reduced to 12 cents, the 20 per cent would equal 2.40 cents per gallon; if reduced to 10 cents, the dealer's gross margon would be 2 cents; if the retail price advanced to 20 cents, the spread would be 4 cents to the dealer. In this way there would be an incentive for the dealer to rather encourage the maintenance of a reasonably profitable market for the distributor or the refiner. If the dealer was inclined to cut retail prices and his competitive dealers were to follow his lead, they would all find, under this plan, a lessening of their margin.

Refiner-Jobber Basis

Carrymg this plan further, if the refinery selling to the jobber in a particular locality were to take the prevailing retail price in that locality as his selling price and deliver the gasoline in tank cars, and instead of guaranteeing a 3 or 4-cent margin under current tank wagon prices, he were to allow his jobber a discount of 20 per cent and 25 per cent under the prevailing retail price exclusive of tax, then under a 20-cent retail price, the dealer would get 4 cents, the jobber would get the same 20 per cent plus an additional 25 per cent, equalling 4 cents under the dealer's price, or a total of 8 cents under the 20-cent retail price, and would net the refinery 12 cents delivered. If the retail price was 15 cents, the first discount 20 per cent, equalling 3 cents, the second discount of 25 per cent would equal 3 cents, and the refiner would get 9 cents for his product delivered in tank cars; then if the retail price was 10 cents the dealer's 20 per cent would equal 2 cents, the additional 25 per cent to the jobber would equal 2 cents, and the refiner would get 6 cents.

In this same 10-cent retail schedule, if the present margins were guaranteed, i.e., the dealer 3 cents and the jobber 4 cents, the refiner would only get 3 cents delivered, which after deducting freight, may leave him 1½ cents or 2 cents. These discounts are merely used to indicate the principle of the percentage basis of discounting, whether it be 20 and 25 or some other figures.

Example of how discount basis effect the spread:

(Cents per gallon ex-tax)					
Net retail schedules.	10	12½	15	17½	20
Dealer's discount 20%	2	2½	3	3½	4
Net dealers cost....	8	10	12	14	16
Jobbers added discount, 25%	2	2½	3	3½	4
Net jobbers cost delivered and refiner's delivered price	6	7½	9	10½	12

Going further than this, distributors maintaining wholesale stations operating the same on commission basis, should work out a percentage basis commission for their agents, plus a reasonable cartage allowance, if desirable for long distance

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hauls, but letting the percentage commission of say 10 per cent be the basis and that applying on the net price to the dealer after the 20 per cent, or some such discount, is made from the original retail schedule.

This then would carry the plan to a point where all parties concerned would be interested in avoiding local destructive price wars, which reflects back in the end to the producer of crude. It may be remarked here that every person or firm interested in the production of crude oil or interested directly or indirectly in furnishing equipment or supplies to producers or refiners or distributors, is affected to a more or less extent by the price that "Lizzie" pays to have her tank filled at the service station, for after capital money has been spent, all new money, practically speaking, that goes back into the business is that money which "Lizzie" pays "Jimmie" at the service station. A stable and reasonable service station price is therefore a thing to be desired and encouraged by all parties interested directly or indirectly in the petroleum industry.

CENTRAL WEST FIELDS

(Continued from Page 46)

Thompson and others in a second test on the Nina Wilhite farm, 3 miles north of Calhoun in McLean County and produced an initial of 40 bbls. after a shot. Ivyton Oil & Gas Co. found a dry hole on the Bailey Brothers farm, 4 miles southwest of Calhoun, in the same county at a reported depth of 4,261 feet, which is one of the deepest tests yet made in the western part of the state. James C. Ellis is drilling on the Tom Henry farm, same county.

S. H. Russell and others' test on the William Tanner farm, in the Colyer Pool, in Daviess County, produced 25 bbls. initial. Evans and Garrison are drilling No. 1 William Hibner farm, same county.

S. A. Cobb and others' No. 1 on the Mrs. Laura Mercer 108 acres, in the Crow Pool, in Ohio County, was a dry hole at a total depth of 825 feet. Oliver Jenkins is drilling a second test on the Nation Brothers farm. The Cumberland Petroleum Co. is drilling No. 4 David Broos farm, in the Hainesville Pool, and has a machine for No. 5, same farm.

In the Pellville Field of Hancock County, Hupp, Duff and others are drilling No. 2 on the Alec Jackson farm of 103 acres, and has a machine in for No. 3 same farm. Hardly Able Oil Co. is drilling No. 1 and have a machine for No. 2 on the Della Lain 65 acres, same county.

The Federal Fuel Corp., subsidiary of the Columbia Carbon Co., drilling on the T. W. Reynolds farm, 2 miles north of Madisonville, in Hopkins County, struck a show of gas at a depth of 800 feet, but it will be drilled deeper.

Hopkins County Test

Pratte Brothers failed to find a gas pay or oil sand at a depth of 1,000 feet near Dawson Springs in the north part of Christian County, and abandoned the hole, and will move to a location near Daniel Boone, in Hopkins County, which they expect to test the area from 1,800 to 2,000 feet.

Hart County, in the lower part of western Kentucky, shows the most decided comeback in new work. Present activity is centered north of the Legrande Pool, where the Hart County discovery wells were drilled. Hart County, during two years' activity, has shown somewhat spotted, but the trade is now getting a better lineup on the productive areas and dry holes are not so frequent as formerly.

Webster County gas completions have featured late work in that end of the field. Two recent completions were producers of 1,500,000-foot capacity each. In one test an oil production of 50 bbls. was shown and in another 75 bbls. initial was reported. The gas wells in the Sebree Field were found at an average depth of 1,500 feet, while the oil production comes from a shallower depth, close to 450 feet.

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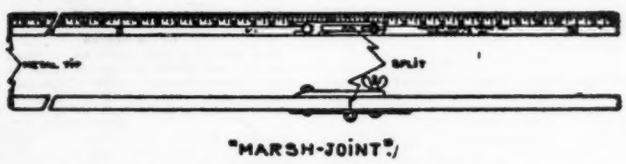

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Manufactured by
Fenwick-Reddaway Mfg. Co.
Newark, N. J.
Stocks Carried at
NICHOLS TRANSFER & STORAGE CO.
1 North Boulder Tulsa, Okla.
Phone 2-1117

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for September

RUNS

	Month (bbls.)	Div av. (bbls.)
Prairie P. L. Co.*	538,000	17,600
Gulf P. L. Co.	1,058,467	35,282
Texas P. L. Co.	378,133	12,604
Magnolia P. L. Co.	1,134,918	37,831
Empire P. L. Co.	1,263,766	42,126
Cosden P. L. Co.	564,080	18,802
Stanolind P. L. Co.*	1,245,000	41,500
Oklahoma P. L. Co.	2,074,325	69,144
Other lines*	3,123,000	104,100
Total September	11,369,689	378,990
Total August	13,029,528	419,301
Difference	1,659,839	40,311

SHIPMENTS

Prairie P. L. Co.	3,763,395	125,430
Gulf P. L. Co.	1,746,138	58,204
Texas P. L. Co.	1,079,849	35,995
Magnolia P. L. Co.	920,128	30,671
Empire P. L. Co.	1,857,547	61,918
Cosden P. L. Co.	711,942	23,731
Stanolind P. L. Co.	3,454,590	115,153
Oklahoma P. L. Co.	2,206,570	73,552
Other lines*	4,350,000	145,000
Total September	20,069,659	669,654
Total August	23,270,345	750,656
Difference	3,200,686	81,002

STOCKS

Prairie O. & G. Co.*	35,593,000
Gulf P. L. and Gypsy Oil Co.	7,942,451
The Texas Company	2,784,096
Magnolia Petroleum Co.	6,904,382
Empire P. L. Co.	3,488,478
Mid-Continent Petroleum Corp.	3,248,098
Stanolind Crude Oil Pur. Co.*	15,232,000
Oklahoma P. L. Co.	1,054,256
Carter Oil Co.	6,883,733
Other lines*	15,408,000
Total September	98,657,494
Total August	105,427,880
Difference	6,770,386

*Estimated.

EASTERN PIPE LINE REPORT
FOR MONTH OF OCTOBER

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for September and October:

	Sept., 1931	Oct., 1931
Nat. Transit	145,864.04	154,511.51
S. W. Pa. P. L.	79,823.98	79,162.91
Eureka P. L.	306,199.28	321,800.33
Buckeye P. L. (Macksburg)	277,205.53	282,641.23
Buckeye P. L. (Cleveland)	12,190.61	12,576.07
Buckeye P. L. (Lima, etc.)	82,263.82	85,128.77
Indiana P. L.	2,703.99	2,549.84
Cumberland P. L.	145,866.70	.....
N. Y. Transit	30,392.22	36,518.13
Tide Water P. L.	22,802.35	23,220.70
Pure Oil	292,400.07	313,618.79
Stoll Oil Ref.	39,470.48	49,655.93
Bradford Tran.	413,169.77	476,204.68
Ashland Ref.	.....	144,886.55
Total	1,840,352.84	2,002,475.44
Daily average	61,345.09	64,595.98

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for September and October:

	Sept., 1931	Oct., 1931
Nat. Transit	499,112.79	582,367.43
S. W. Pa. P. L.	423,402.26	479,782.62
Eureka P. L.	372,988.75	354,353.27
Buckeye P. L. (Macksburg)	234,573.66	234,152.11
Buckeye P. L. (Cleveland	1,944.16	1,712.38
Buckeye P. L. (Lima, etc.)	1,802,206.78	1,712,258.64
Indiana P. L.	909,359.87	856,217.10
Cumberland P. L.	115,316.63	.....
Southern P. L.	70,732.74	69,625.59
N. Y. Transit	171,413.21	191,559.61
Northern P. L.	255,413.44	168,179.98
Tide Water P. L.	465,676.21	516,307.63
Pure Oil	222,738.09	268,732.26
Bradford Tran.	480,695.64	559,039.81
Tuscarora	500,545.93	346,305.63
Ashland Ref.	.....	144,886.55
Total	6,526,110.18	6,535,782.71
Daily average	217,537.01	210,831.70

Gross Stocks

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of September and October:

	Sept., 1931	Oct., 1931
Nat. Transit	749,274.20	673,029.13
S. W. Pa. P. L.	404,189.10	435,631.21
Eureka P. L.	1,445,855.17	1,162,617.18
Buckeye P. L. (Macksburg)	347,122.32	307,630.88
Buckeye P. L. (Cleveland)	39,616.20	36,248.81
Buckeye P. L. (Lima, etc.)	2,778,403.92	2,659,895.96
Indiana P. L.	523,814.43	551,521.77
Cumberland P. L.	69,282.55	64,611.76
Southern P. L.	219,334.72	233,968.56
N. Y. Transit	103,612.34	99,292.01
Northern P. L.	293,028.03	300,534.94
Tide Water P. L.	924,216.84	1,015,782.92
Pure Oil	485,055.55	556,871.54
Tuscarora	11,544.91	11,658.70
Bradford Trans.	178,031.09	308,399.51
Total	8,492,431.43	8,417,694.91
Decrease	700,025.90	74,736.52

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of September and October, showing gross stocks of the above fields:

	Sept., 1931	Oct., 1931
Pennsylvania	3,054,494.51	3,031,430.00
Lima	664,893.87	619,693.95
Kentucky	79,690.06	75,019.27
Mid-Continent	4,202,724.97	4,145,615.17
Illinois	15,643.58	.....
Michigan	474,984.44	545,936.52
Total	8,492,934.44	8,417,694.91

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1928	1929	1930	1931
January	52,904	51,749	75,907	63,939
February	57,002	51,833	79,256	55,163
March	57,485	54,252	76,083	54,331
April	56,813	58,444	84,536	54,914
May	62,067	59,902	70,546	54,344
June	58,230	58,833	75,430	54,110
July	57,144	46,087	68,931	50,723
August	57,745	46,087	54,291	51,503
September	53,487	47,315	56,595	51,345
October	58,100	76,093	58,179	54,595
November	53,865	74,831	62,332	.....
December	53,035	74,561	53,999	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1928	1929	1930	1931
January	146,465	165,721	217,623	175,369
February	167,368	159,387	224,355	183,494
March	158,883	161,474	228,846	189,508
April	172,935	169,737	241,845	191,450
May	180,559	184,281	248,383	199,247
June	188,024	185,404	234,401	221,155
July	189,470	194,762	207,094	211,633
August	192,853	194,946	205,506	224,166
September	194,138	201,214	193,999	217,537
October	176,000	191,367	157,675	210,331
November	176,898	202,743	146,638	.....
December	173,573	186,357	143,001	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1929	1930	1931
January	7,596,564	12,220,045	11,831,091
February	8,738,835	12,991,561	11,506,449
March	9,002,058	13,247,217	11,012,162
April	8,978,172	13,233,961	11,044,467
May	8,903,560	13,052,953	10,728,239
June	8,921,275	13,396,855	9,903,349
July	9,211,565	13,268,562	9,569,849
August	9,440,643	13,047,051	9,192,457
September	9,443,067	12,812,018	8,492,431
October	9,441,101	12,437,553	8,417,694
November	9,868,538	11,851,380	.....
December	11,253,953	11,751,952	.....

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, November 1	451,188.86
Runs from wells	474,903.43
Regular deliveries	304,925.73
Other deliveries	260,021.96

The amount of Illinois oil run by the Tide Water Pipe Co. in October was 23,220.70 bbls. Deliveries were 20,909.22 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

	Runs	Deliveries
1931—		
October	498,124.13	325,834.95
1930—		
January	543,387.95	498,292.91
February	548,416.33	414,536.59
March	631,944.49	469,119.52
April	530,074.22	509,304.60
May	606,147.37	504,069.84
June	572,662.87	468,658.81
July	604,529.54	388,454.47
August	594,642.12	376,742.41
September	457,001.31	371,691.61
October	478,442.12	320,668.72
November	422,794.68	355,403.12
December	556,418.78	363,719.55
1931—		
January	468,429.04	389,573.19
February	429,284.54	461,262.81
March	424,638.33	356,663.28
April	421,314.93	282,532.61
May	433,231.80	222,513.95
June	510,805.78	320,258.13
July	520,009.38	289,219.05
August	476,623.56	393,231.06
September	492,183.33	323,012.50

Tide Water Pipe Co., Ltd., also delivered in October, 119,981.53 bbls. Oklahoma oil.

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur Saline Pass	Tampa	Total	Total all ports
November	29,633	35,900	124,633	36,467	24,667	261,300	2,467	7,366	.....	1,767	11,600	272,900
December	21,419	14,033	133,774	32,839	32,774	234,839	6,290	10,613	2,097	290	19,290	244,129
January	17,613	13,519	154,235	32,903	30,612	248,871	2,032	11,677	2,097	3,097	18,903	267,774
February	31,321	16,929	127,786	31,714	26,857	234,607	4,536	11,571	.....	536	16,643	251,250
March	27,645	18,935	141,160	26,290	21,129	235,161	4,065	2,580	.....	1,968	8,613	246,774
April	35,000	10,533	109,000	29,767	36,533	215,833	2,733	3,400	.....	.....	6,133	221,966
May	30,129	5,774	107,000	25,452	26,710	195,065	.....	2,000	.....	.....	2,000	200,065
June	30,067	10,833	111,767	27,000	20,833	200,500	3,300	5,500	2,167	1,333	12,300	212,800
July	26,387	11,226	104,678	29,323	21,773	193,387	6,903	7,419	4,194	.....	18,516	211,903
August	32,612	15,581	91,742	22,387	25,741	188,064	4,161	2,516	.....	3,162	9,839	197,903
September	27,067	7,267	106,867	20,099	22,967	184,267	4,833	8,333	.....	.....	13,166	197,433
October	53,710	14,484	100,774	26,742	40,645	236,355	6,097	6,871	2,097	1,838	16,903	253,258

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur Saline Pass	Tampa	Total	Total all ports
November	8,267	6,233	33,800	17,733	4,600	70,733	.....	.....	.....	.....	4,800	75,533
December	5,516	4,323	30,645	9,678	3,580	53,742	.....	.....	.....	.....	4,645	58,387
January	8,387	6,613	21,968	14,678	11,096	62,742	.....	.....	.....	.....	6,129	68,871
February	5,787	3,713	29,143	4,000	5,750	47,393	.....	.....	.....	.....	3,750	51,143
March	10,032	1,611	21,355	7,324	8,774	49,129	.....	.....	.....	.....	6,355	55,484
April	5,133	.....	19,200	16,500	10,067	50,900	.....	.....	.....	.....	4,000	54,900
May	4,452	3,064	19,903	11,226	6,258	44,903	.....	.....	.....	.....	3,355	47,258
June	4,267	.....	25,100	6,333	3,500	39,200	.....	.....	.....	.....	.....	39,200
July	6,774	1,194	24,612	11,065	9,902	53,548	.....	.....	.....	.....	1,335	54,903
August	3,452	.....	16,419	7,419	4,290	31,580	.....	.....	.....	.....	968	32,548
September	4,267	2,667	12,933	4,699	7,367	32,933	.....	.....	.....	.....	4,000	36,933
October	2,355	1,129	19,290	16,709	9,323	48,806	.....	.....	.....	.....	3,323	52,129

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1930—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
October:	Month	18,344,068	16,682,923	23,636,552	3,517,913	1,636,552	2,142,885	3,225,550	3,627,000	72,707,023
	Daily average	588,518	536,533	762,147	115,232	52,793	69,125	104,050	117,000	2,345,288
November:	Month	18,109,459	14,941,779	22,935,322	3,459,330	1,557,870	2,136,945	3,257,190	3,222,000	69,419,699
	Daily average	603,648	498,059	764,507	115,311	51,929	71,231	98,570	107,400	2,280,656
December:	Month	17,786,728	15,067,103	21,810,359	3,432,661	1,596,951	2,357,634	3,115,663	3,328,000	68,281,999
	Daily average	573,765	486,713	703,560	110,731	51,531	69,598	100,602	107,355	2,202,645
1931—										
January:	Month	16,485,738	14,850,953	20,020,213	3,432,475	1,574,955	2,195,037	2,906,142	2,374,000	64,228,513
	Daily average	531,798	479,063	645,781	110,735	50,805	68,873	93,682	108,339	2,091,545
February:	Month	14,930,932	13,551,980	19,957,571	3,241,016	1,402,492	1,951,616	2,747,024	2,129,000	60,031,631
	Daily average	533,248	483,985	677,957	115,322	50,089	70,772	98,108	111,756	2,143,830
March:	Month	16,364,542	14,637,637	22,453,319	3,498,593	1,468,245	2,061,576	2,893,825	2,374,000	68,747,697
	Daily average	527,898	536,377	724,210	112,858	47,395	66,503	93,426	108,356	2,217,665
April:	Month	15,802,541	16,815,990	24,887,717	3,281,330	1,413,220	2,098,031	2,901,870	3,272,000	72,284,299
	Daily average	526,785	559,355	996,257	109,396	47,074	69,934	96,729	109,100	2,412,809
May:	Month	16,446,960	17,338,867	23,708,634	3,241,366	1,446,274	2,232,568	2,998,419	3,190,000	75,806,138
	Daily average	530,613	559,157	926,956	107,736	46,654	72,013	99,949	102,900	2,445,166
June:	Month	15,641,436	16,673,200	23,196,233	3,175,440	1,344,450	1,850,511	2,936,200	3,166,000	73,983,070
	Daily average	521,381	555,940	773,207	105,848	44,815	61,684	99,540	105,533	2,466,069
July:	Month	16,091,322	16,457,750	24,237,733	3,090,702	1,387,430	1,715,730	2,905,909	3,241,000	73,739,185
	Daily average	519,139	531,218	781,865	99,702	41,530	55,346	93,739	107,774	2,589,650
August:	Month	15,668,954	15,875,510	22,379,916	3,148,887	1,165,445	1,584,444	2,807,143	3,167,000	69,500,229
	Daily average	505,451	512,210	1,041,284	101,577	37,595	51,111	90,553	102,161	2,241,943
September:	Month	15,180,610	15,430,320	26,981,525	3,151,770	1,138,380	1,641,384	2,761,220	3,632,000	64,417,729
	Daily average	506,020	514,344	966,051	105,059	37,946	54,713	92,041	121,067	2,147,257
Total 12 months		196,758,805	176,547,202	308,727,324	39,926,098	17,026,264	23,548,254	35,273,285	39,833,000	837,330,021